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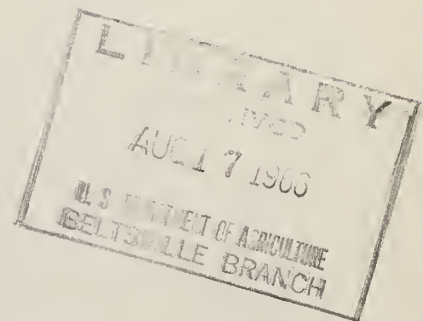
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1965 Eastern Europe Agricultural Situation Summary



The outstanding feature of the agricultural situation in Eastern Europe during 1964 was the good recovery by the Soviet Union from its disastrously low outturn of the previous year. Record crops of sugar beets, sunflowerseed, potatoes, and vegetables were officially reported. State procurements of these commodities were also at an alltime high as were fruit and tobacco procurements. Cotton output approximated the record level of 1963, according to official reports. In other East European countries, agricultural output was also slightly up, except in Czechoslovakia, where it was down. Collectivization continues to impose serious production restraints in most of Eastern Europe.

In the Soviet Union, grain output, which was hit by severe drought in 1963, increased substantially and the state grain procurement plan was overfulfilled. The USSR will need no large wheat imports, in contrast to the situation during 1963/64. In the Danubian countries, grain production was up slightly, but wheat imports will be necessary except in Rumania. Corn, the principal Danubian grain crop, fared better than wheat. Grain production was down in Poland and Czechoslovakia and not far different from 1963 in East Germany. Root crops and sunflowers were good throughout Eastern Europe, as was cotton in the Soviet Union. Rapeseed production was down.

An improved feed situation in the Soviet Union should permit rebuilding of livestock herds, especially hogs which declined sharply in 1963. The more liberal policy toward the private sector should also help. However, Soviet meat production will be much lower than in 1963/64, which was characterized by considerable distress slaughter. Soviet milk production is expected to increase somewhat, in view of the improved feed supply and higher prices paid by the state for milk.

The livestock situation in the Danubian area is expected to improve in 1964/65 and increased pork exports appear likely. Livestock numbers increased in Poland and the meat supply, especially pork, is expected to improve. After reaching a low point in 1963, East German livestock numbers have almost returned to the 1960 level, reflecting partly the somewhat improved feed supply and partly the effect of an increase in livestock prices.

No significant change in agricultural policy took place in Eastern Europe. In the Soviet Union, the downfall in mid-October of Khrushchev, who played a dominant and highly dynamic

role in agricultural policy during the past decade, ushered in a somewhat more liberal policy towards the private sector, particularly animal husbandry. Changes in the agricultural administrative apparatus, reversing some of Khrushchev's recent organizational innovations, were also made. But generally, the new leadership has proceeded cautiously on the agrarian front, continuing a number of Khrushchev's programs, notably his mineral fertilizer program.

The availabilities of grain, vegetables, and potatoes improved in the Soviet Union with a considerably better harvest in 1964. Wheat bread has become more readily available, but flour continues to be generally unavailable in the cities. The meat supply is smaller than during 1963/64. Food availabilities improved in other East European countries except Yugoslavia. Consumers in Yugoslavia have been bedeviled by sharp price increases of foodstuffs, including higher prices of bread and flour, the mainstay of the diet. In Czechoslovakia, the high meat prices introduced in February 1964 are expected to continue. The bread supply has improved in Bulgaria, where bakers were permitted, since May 1964, to produce wheat bread free of the barley and corn adulteration previously required. Potato supplies in Poland, East Germany, and Czechoslovakia are again good, while vegetables and fruit supplies have improved. In the Danubian countries, however, the availability of potatoes, fruit, and vegetables is somewhat reduced. Meat shortages continue in a number of these countries.

Large sugar output is expected in Eastern Europe. The vegetable oil supply has improved and so has the animal fats supply, except in the Soviet Union, where it has deteriorated.

Table 1.--Eastern Europe: Indices of net agricultural production, total and per capita by country, 1961/62-1964/65 1/

(1952/53-1954/55 = 100) <u>2/</u>									
Country	Total				Per capita				
	1961/62	1962/63	1963/64	1964/65	1961/62	1962/63	1963/64	1964/65	
	: <u>3/</u>	: <u>3/</u>	: <u>4/</u>	:	: <u>3/</u>	: <u>3/</u>	: <u>4/</u>	:	
USSR	138	139	130	142	122	121	112	120	
Other Eastern Europe:									
Poland	139	135	130	132	123	117	111	112	
East Germany	100	101	104	106	107	107	110	113	
Czechoslovakia	128	127	125	123	120	118	115	113	
Hungary	123	124	121	123	117	118	115	117	
Rumania	130	123	128	133	117	109	113	117	
Bulgaria <u>5/</u>	145	154	148	153	133	140	134	138	
Yugoslavia	136	133	136	137	124	120	122	121	
Total	129	127	126	128	120	117	115	117	
Total Eastern Europe	135	135	129	137	122	120	113	119	

1/ The USDA index of net agricultural production measures the value of crop production less feed, seed, and waste; and the value of livestock products. 2/ Base period for the USSR is 1953/54 - 1955/56. 3/ Revised. 4/ Forecast. 5/ Revised series. The principal revision was in the base period.

Production

Agricultural output in the Soviet Union in 1964/65 recovered sharply from the disastrous level of the preceding year. According to USDA preliminary estimates, net agricultural production was 12 points above 1963/64 and 3 points above 1962/63 (table 1). ^{1/} Thus, at least as far as total net output is concerned, the serious decline in production in 1963/64 has been overcome. However, the 1964/65 index is only 4 points above the level of 1958/59; in terms of output per capita, the situation has deteriorated. The year 1965 is the last in the current 7-year plan (1959-65) during which gross agricultural production was planned to increase at an annual rate of 8 percent. If 1965 is an average year, agricultural production at the end of the plan period apparently will be only slightly above the level of the base year, 1958, and below that level in per capita terms.

The 1963/64 season, like the previous one, began inauspiciously. Both crop years shared dry fall sowing conditions, and considerable damage was inflicted on fall sown crops. However, the damage to winter crops in 1963/64 was due primarily to lack of moisture in the fall, preventing germination. In the previous year, it was due both to lack of moisture and fluctuating winter temperatures resulting in severe freezes followed by thaws. Spring and summer weather conditions, however, were almost the reverse in 1964 of those in 1963. Drought throughout most of the country typified 1963, while 1964 had good to excellent growing conditions in many major regions.

In the New Lands of Siberia and Kazakhstan, the crucial region for state grain procurements and an area of disputed potentiality, these 2 years provide an excellent case study of the effects of weather on the agriculture of the region and the impact on total grain production. Soil moisture and precipitation had been low in the major areas of the New Lands since 1959. In 1962, precipitation was exceptionally low during the summer, and at the outset of 1963 soil moisture levels were extremely low. Precipitation during the spring and summer of 1963 was far below average, especially in the key Tselinograd Oblast. By harvesttime 1963, there was little grain to be harvested, and for the New Lands region as a whole the crop was virtually a failure.

Conditions in the New Lands began to change during the last third of 1963. Exceptionally heavy precipitation fell in the fall and winter of 1963/64. As a result, soil moisture levels in spring 1964 were excellent. Then during the spring and summer, at least normal rains fell in most of the New Lands regions with the exception of Tselinograd and Pavlodar Oblasts, where precipitation was somewhat below average.

These conditions resulted in a bumper crop in the New Lands in 1964--only slightly below 1956, the best year since grain production was expanded in the New Lands--despite a late start and inclement weather during the harvest. Even in Tselinograd Oblast, where summer moisture

^{1/} According to the Soviet annual economic report, gross agricultural output increased 12 percent during 1964 (Pravda, January 30, 1964). No supporting statistical data were provided. The USDA preliminary index of net agricultural output shows a 9 percent increase in 1964/65 compared with the previous year.

was not quite up to average, the crop was large. This illustrates the response of crops in this region to moisture. It also shows that the area can make a surprising comeback after years of unfavorable weather.

In other regions of the Soviet Union comparisons between 1962/63 and 1963/64 are also striking. In the Volga and Urals regions, precipitation during 1963/64 was generally above long-term averages, whereas in 1962/63 it was generally well below average. Good grain crops were reported in both regions in 1964. In Krasnodar Kray, one of the most fertile regions of the USSR, weather conditions were not particularly good for winter grains; as a result, estimated grain production was lower in 1964 than in 1963. However, precipitation improved significantly as the summer wore on, so that late summer crops were favored and their yields were above those of 1963. For the Ukraine and the rest of European USSR, winter grain losses were substantial and increased toward the southern and western fringes of the country. In many regions of the southern Ukraine and Moldavia, damage to winter crops was more severe than in the previous season. Also, a number of regions in European USSR, some normally in the humid zone, like Belorussia, suffered in 1964 again from a prolonged spring and summer drought.

The most notable improvements in production took place in crops and regions hit hardest in 1963. Grains, especially wheat, recovered most spectacularly, despite considerable damage to winter grains. Total production last year of the five major grains (wheat, rye, barley, oats, and corn for grain) is estimated by USDA at 103.9 million tons. This is 22.3 million tons more than the 1963 crop and the largest grain harvest since 1958 (table 2).

Through 1964, there were no official Soviet statistics published on crop production for 1963 and 1964. Only data on procurements in 1963 were disclosed, which, except for industrial crops like cotton and sugar beets, are only partly indicative of the volume of production.

The 1964 grain procurement plan of 67.2 million tons has been reported overfulfilled. This is 22.4 million tons more than was reported procured in 1963 and 10 million tons above procurements in 1958, the previous record year. No breakdown for procurements of individual grains is available for 1963 and 1964. The record 1964 procurements were only in part due to the good harvest; they were to a great extent the result of a concerted effort by the state to procure all grain possible to replenish stocks which had been drastically reduced in 1963/64. Thus, the supply of grain for food in urban and grain deficit rural areas should be substantially better in 1964/65 than in 1963/64. Judging from experience, procurements of this magnitude may necessitate a larger than usual return of procured grain to the farms. There are indications that exports of grain, for the time being, will be subordinated to the goal of rebuilding reserves.

Weather was favorable not only for spring grains, but also for most other crops. Despite the need of considerable replanting of cotton early in the season, the procurement plan of 5.1 million tons of unginned cotton (approximately 8 million bales) was overfulfilled. The total crop apparently approached the record 1963 level of 5.2 million tons. Sugar beets and sunflowers benefited greatly from late summer rains, and procurement plans for both crops were overfulfilled.

The upward trend in sugar beet production was accelerated in 1964. The area of sugar beets for factory processing increased to slightly more than 4.2 million hectares in 1964

Table 2.--Soviet Union: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64 1/

Item	1955-59 average			1962			1963			1964 2/		
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons
Field crops:												
Wheat	64,234	52,015	67,400	54,440	64,600	40,000	65,000	40,000	65,000	55,000	1,000	1,000
Rye	18,107	15,203	16,900	13,716	15,000	11,700	17,000	11,700	17,000	12,800	1,000	1,000
Barley	10,040	9,600	16,200	15,674	20,500	16,400	20,500	16,400	20,500	20,500	1,000	1,000
Oats	14,613	12,015	6,900	5,600	5,700	3,700	5,700	3,700	5,700	3,900	1,000	1,000
Corn 3/	4,797	7,536	7,000	9,800	7,000	9,800	7,000	9,800	7,000	11,700	1,000	1,000
Potatoes	9,426	77,247	8,700	61,870	8,500	67,500	8,700	67,500	8,700	75,000	1,000	1,000
Sugar beets (factory) 4/ ..	2,226	40,309	3,170	47,175	3,750	44,000	4,235	44,000	4,235	77,000	1,000	1,000
Sunflower seed	4,001	3,364	4,390	4,400	4,390	4,000	4,590	4,000	4,590	4,600	1,000	1,000
Cotton, lint 4/	2,131	1,458	2,390	1,463	2,480	1,770	2,500	1,770	2,500	1,785	1,000	1,000
Livestock:												
Products:												
Red meat 5/	---	5,205	---	6,685	---	7,255	---	7,255	---	5,620	1,000	1,000
Poultry 6/	---	578	---	800	---	800	---	800	---	800	1,000	1,000
Milk, cows	---	46,180	---	54,600	---	52,000	---	52,000	---	54,000	1,000	1,000
Wool	---	294	---	367	---	370	---	370	---	360	1,000	1,000
Eggs	---	Billion units	---	Billion units	---	Billion units	---	Billion units	---	Billion units	1,000	1,000
		21.8		30.1		28.8		28.8		29.0	1,000	1,000
Number: 7/												
Cattle	---	62.9	---	82.1	---	87.0	---	87.0	---	85.4	1,000	1,000
Hogs	---	39.9	---	66.7	---	70.0	---	70.0	---	40.8	1,000	1,000
Sheep	---	112.1	---	137.5	---	139.7	---	139.7	---	133.9	1,000	1,000
Horses	---	12.6	---	9.4	---	9.0	---	9.0	---	8.5	1,000	1,000

1/ USDA estimates unless otherwise indicated; Soviet estimates of area and livestock numbers. 2/ USDA preliminary estimates.
3/ Corn for grain. 4/ Soviet production estimate. 5/ Beef, veal, pork, mutton, lamb, and goat; carcass weight. 6/ Dressed weight. 7/ January 1.

Sources: 1955-59--Sel'skoe khozyaystvo SSSR, 1960;
1962--Narodnoe khozyaystvo SSSR v 1962 godu;
1963-64--SSSR v tsifrakh v 1963 godu

compared with 3.7 million in 1963, 3.2 million in 1962, and an average of 2.2 million during 1955-59 (table 2). This large expansion in area plus very favorable weather resulted in over-fulfillment of the plan--76.2 million tons. Such an outturn from the present area would require a good but not record yield of approximately 180 centners per hectare; the weather in 1964 did not preclude an average yield of that magnitude. Whether the reported procurements of more than 70.2 million tons of beets can be processed without above-average losses is open to question. Nevertheless, sugar production from this crop will be considerably above the previous record of 5.8 million tons in 1961/62.

As in the case of sugar beets, other late crops, including sunflowers and corn, which did not appear to be particularly well favored at the beginning of the summer, improved considerably as the season wore on. The potato crop was somewhat better than in 1963 but still below the level of earlier years. The output and procurements of vegetables, fruits, and tobacco were also above the level of 1963.

The livestock feed supply appears to have been much better in 1964 than during several previous years. A large increase in the area and production of barley in recent years has offset in part the substantial drop in oats. The feed supply was also augmented in 1964 by good crops of corn (grain, silage, and green feed) and other cultivated feed crops, as well as by better than average pasture and hay crops. At the same time, declines in livestock numbers, especially hogs, during 1963 tended to relieve some of the pressure on the feed supply.

These factors will only partially improve conditions in the livestock sector, which was considerably overextended moving into the very poor year of 1963. Meat production, which increased sharply in 1962/63 and 1963/64, primarily due to heavy slaughter, was expected to decline in 1964/65. Meat production during 1964 was reported to be 20 percent below the level of 1963. The wool clip was down slightly. Milk and egg production was expected to approximate 1963/64 levels, when the output of both declined (table 2).

Part of the livestock losses incurred in 1963 were recouped in 1964 but as of January 1, 1965, herds were still smaller than in earlier years. Hog numbers, which dropped 40 percent in 1963, made the sharpest gain, but the herd of 52.8 million was below the level of 1960. Correspondingly, cattle at 87.1 million head approximated the 1963 level. Sheep and goats declined further from 139.5 million head in 1964 to 130.6 million in 1965.

The livestock sector will show the scars of 1963 for a longer period than the crop sector and will improve in 1965 and 1966 only if the general improvement in the feed supply can be maintained.

The amount of fertilizer available to agriculture increased during the fall of 1963 and the spring of 1964 and more was used on grains, although a larger share is still allocated for industrial crops, especially sugar beets and cotton. Increased supplies of fertilizer undoubtedly enhanced favorable weather in boosting grain and other crop production in 1964.

With a substantial recovery of production in 1964 and the end of the Khrushchev regime, it is appropriate to note a few of the major changes in agricultural production over the past decade.

Table 3 indicates that the largest and most consistent improvement in groups of commodities has been in the industrial crops, which in 1964/65 were about 75 percent above 1953/55. The livestock sector is probably the most important in terms of its weight in the index, its significance to the quality of the Soviet diet, and its implications for Soviet agriculture. Net output of livestock products increased about 50 percent over the decade. Despite the very low level of livestock output in earlier years of the decade, this is still a significant improvement. Behind it stands the substantial increase in the feed supply, including grains, and large increases in livestock numbers. Although shortages of livestock feed have been and continue to be a problem, the livestock feed supply has increased considerably. Some of this increase has come from the larger grain output (including corn in the milk-wax stage of maturity) and pulses, which are statistically classified with grain in the Soviet Union. The USDA index of net output deducts these feed uses from the grain sector, but they are reflected in the output of livestock products. The greatest increase in livestock feed has come from the rising output of silage crops and other roughages which constitute a much larger proportion of livestock feed consumed in the Soviet Union than in the United States. Because of low feeding efficiency in the Soviet Union, a larger feed supply is needed to obtain a given level of livestock production than in the West.

Table 3.--Soviet Union: Changes in the value of net agricultural output, selected years, 1958/59-1964/65 ^{1/}

(1953/54-1955/56 = 100)					
Major commodity group	1958/59	1962/63	1963/64	1964/65	
Grains ^{2/}	154	130	103	132	
Industrial crops ^{3/}	133	147	155	175	
Livestock products ^{4/}	136	151	147	145	
Total net agricultural output	138	139	130	142	

^{1/} Based on USDA estimates.

^{2/} Wheat, rye, barley, oats, corn for dry grain, buckwheat, millet and rice.

^{3/} Refined sugar, cotton, and oilseeds.

^{4/} Meat, milk, eggs, and wool.

It is interesting to note that, although the general trend of Khrushchev's agricultural price policy over the decade was to increase the prices of food crops and livestock products relative to industrial crops, these crops still retain their superior position.

When Stalin died, the prices of industrial crops compared to other food crops and livestock products were greatly out of line (table 4). Over the decade, procurement prices for basic food crops and livestock products were repeatedly increased so that the gap between them and industrial crops was significantly diminished. Nevertheless, the favored position of industrial crops persists.

Any judgment regarding the preferential treatment given to a crop or group of crops must rest upon some knowledge of alternative opportunities and relative profitability. In the Soviet Union a collective farm is not actually free to grow the kinds and quantities of crops it chooses on the basis of profitability to the farm alone; thus the alternative opportunities of a collective farm are limited. Furthermore, it is difficult to evaluate Soviet information on

Table 4.--Soviet Union: Procurement prices paid for collective farm products, 1952 and 1963

Commodities	: Price per	: Price per	:	Price	
	: centner	: centner	:	relatives	
	: 1952 $\frac{1}{2}$	: 1963 $\frac{1}{2}$	:	: 1952	: 1963
	: Rubles	Rubles	Percent	Wheat = 1.00	
Wheat .....	.97	7.56	779	1.00	1.00
Corn (grain) .....	.54	7.66	1,418	.56	1.01
Peas	1.31	20.23	1,544	1.35	2.67
Beans	1.42	35.00	2,381	1.51	4.63
Sugar beets	1.05	2.87	273	1.08	.37
Cotton (unginned)	31.88	38.30	120	32.66	5.07
Sunflower seeds	1.92	18.10	943	1.98	2.39
Tobacco	72.03	176.65	245	74.26	23.37
Potatoes .....	.47	7.10	1,510	.48	.94
Vegetables	1.92	7.52	392	1.98	.99
Beef (liveweight)	2.03	79.90	3,936	2.09	10.57
Pork (liveweight)	6.72	98.00	1,458	6.93	12.96
Milk	2.52	12.18	483	2.60	1.61
Eggs (per thousand)	19.90	70.00	352	20.51	9.26
Wool	106.80	378.67	355	110.10	50.09

1/ One ruble equals U.S. \$1.11 at the official Soviet rate of exchange.

Source: Pravda, July 14, 1964.

cost of production, but some tentative conclusions can be drawn. If one accepts Soviet cost of production estimates at their face value, they suggest that in the Ukraine, an area where alternatives are fairly good between industrial and other crops, a collective farm would make a profit over cost per hectare of 54 rubles if it raised grain, 260 rubles if it raised sugar beets, and 211 rubles if it raised sunflowerseeds (table 5).

Table 5.--Soviet Union: Relative profitability of industrial crops compared to grain in collective farms in the Ukraine, 1962

Crop	: Production:	Procurement:	Yield	: Production:	Income	: Profit per
	: cost per	: price per	: per	: cost per	: per	: hectare (Income
	: centner $\frac{1}{2}$	: centner $\frac{2}{2}$	: hectare $\frac{3}{2}$	: hectare	: hectare	: hectare: minus cost)
	: Rubles	Rubles	Centners	Rubles	Rubles	Rubles
Grain	3.3	6.50	17.0	56.10	110.50	54.40
Sugar beets	1.4	2.87	177	247.80	507.99	260.19
Sunflower seeds..	2.8	18.10	13.8	38.64	249.78	211.14

1/ Narodnoe khozyaystvo SSSR v 1962 godu, pp. 338-339.

2/ Ekonomicheskaya gazeta, Sept. 15, 1962, No. 38, p. 22 (12), and Pravda, July 14, 1964.

3/ Narodnoe khozyaystvo SSSR v 1962 godu, pp. 274, 282-283, and 285.

In cotton growing regions of the Soviet Union, such as Uzbekistan and neighboring republics, calculations based on Soviet price and cost of production information result in similar conclusions. In these regions, however, the alternatives to cotton are limited and the comparison less meaningful.

The other major alternative to industrial crops is livestock products. However, when meat prices were raised by 35 percent in 1962, it was said that these new prices would only cover the cost of production on the average collective farm. This would suggest that within the present structure of Soviet agriculture, livestock products are, as in the case of grains, a less profitable alternative product than industrial crops.

Thus, although the great gap between the procurement prices of industrial crops and other agricultural products was narrowed substantially during the period of Khrushchev's leadership, it was not entirely eliminated. This undoubtedly accounts for the generally consistent growth of output of industrial crops during the past decade. It may also be true that Soviet leaders felt that this gap had been narrowed too much by the early 1960's, necessitating the increases in procurement prices for some industrial crops in the past year or two.

Another feature of the present agricultural situation which shows continuity with the past is the persistence of the "grain problem." Failure to increase grain production to the high levels planned has in turn limited the expansion of livestock production. Khrushchev roundly condemned Stalin for not solving the grain problem, and much of his leadership was devoted to attempts to solve it.

As 1963 and 1964 clearly indicated, his solution of the grain problem--primarily expansion into the marginal New Lands--did not result in a stable production. However, the inadequacy of this solution was recognized and many additional measures were undertaken in 1963 and 1964 to add stability to, and expand, grain production by increasing inputs of fertilizer, irrigation, and encouraging grain production in regions with more stable yields. Nevertheless, at this point in Soviet agricultural development, when yields are still low, the New Lands is a vital region. It played a large part in the 1963 crop failure, but also was largely responsible for the sharp comeback in 1964.

A future reduction in sown area in the New Lands, a situation envisaged even by Khrushchev, is possible. This would hinge on increased grain production in the traditional regions, primarily through increases in yields, and stabilizing yields in the New Lands through the adaptation of modern dry-farming practices, notably increasing the amount of land allowed to lie fallow.

It was indicated in last year's issue of this publication that the U.S. Department of Agriculture makes independent estimates of grain production in the Soviet Union. The reasons for this were discussed in some detail last year. Most important, grain production is reported by Soviet sources as the weight of grain from the combine bunker, with high moisture and trash content. Also, there have been known examples of falsified statistics. Table 6 sets forth both USDA and Soviet estimates of total grain production and production of the five major grains in the Soviet Union since 1958. In Soviet practice, total grain includes not only the major and minor grains, but pulses and corn in the milk-wax stage of maturity as well. In table 6, corn in the milk-wax stage is excluded from total grain for both Soviet and USDA estimates, but all other grains and pulses are included to correspond with Soviet terminology.

Table 6.--Soviet Union, production of five major grains and total grain, USDA estimates and official Soviet estimates

	Total grain <u>1/</u>		Five major grains <u>2/</u>	
	USDA	Soviet	USDA	Soviet
	estimates	official <u>3/</u>	estimates	official <u>3/</u>
	- - - - - Million metric tons - - - - -			
1958	115.0	134.7	110.0	128.9
1959	94.2	119.5	90.6	115.3
1960	95.0	125.5	89.4	118.4
1961	109.4	130.8	102.2	122.5
1962	111.9	140.2	101.6	127.9
1963	89.3	<u>4/</u>	81.6	<u>4/</u>
1964	<u>5/</u> 115.1	<u>4/</u>	103.9	<u>4/</u>

1/ Wheat, rye, barley, oats, corn for grain, millet, buckwheat, rice, pulses (immature corn excluded in both categories).

2/ Wheat, rye, barley, oats, corn for grain.

3/ Narodnoe Khozyaystvo SSSR v 1962 godu, pp. 234-235.

4/ As of February 1965, no data have been published by the Soviet Union on total grain production or the production of any individual grains since 1962.

5/ The increasing gap between total grain and the five major grains since 1958 is due to the rapid expansion of pulses.

These estimates represent an attempt to estimate the amount of usable grain, comparable to the usage in most other countries, and are considered only rough approximations. They are based upon sown area data, historical yield trends, weather, and other relevant information. The percentage by which USDA estimates vary from Soviet production figures is a function of the degree to which these various factors are considered to have affected each crop in any given year.

Policy

The past year witnessed the end of the Khrushchev era and the beginning of gradual readjustment under his successors. Thus ended a decade of Soviet agricultural policy dominated by Khrushchev.

The year opened with a spate of conferences, addressed by Khrushchev, and devoted to spurring agricultural production, which had lagged for several years behind Soviet goals and had declined dramatically in 1963. Late in the summer, Khrushchev toured the eastern and southern agricultural regions ending up in the heart of the New Lands area. He inspected a number of collective and state farms, held many discussions with farm managers, specialists, and workers, and made several speeches. Khrushchev characteristically dispensed criticism and praise, offered suggestions for improvement, and sought "advice."

He was obviously stung into this restless activity by the agricultural fiasco in 1963, but his last agricultural tour was, no doubt, a rewarding experience because of the generally good crops he found in the eastern and southeastern regions, which had been so drought-stricken the previous year. Khrushchev undoubtedly considered the improvement in the New Lands, a project he masterminded, as a personal vindication.

The jolt of the 1963 disaster, however, made the problem of more stable and expanded production uppermost in his mind. Both these objectives, as indicated in last year's issue of this publication, were to be achieved through intensification of agriculture, designed to raise productivity per acre, per animal, and per worker. This policy received strong impetus and additional emphasis in 1964. It was in sharp contrast to the extensive method of agricultural expansion previously pursued. Reliance had been placed chiefly upon bringing under cultivation a large area of marginal land, with low and highly fluctuating yields, and on increasing live-stock herds, regardless of their productivity. Except for some industrial crops like cotton and sugar beets, resources were used mainly for extensive programs in agriculture. The sown area increased between 1953 and 1958 by 95 million acres and by another 57 million by 1963 (figure 1). The results in terms of production, however, were disappointing after the record crop of 1958. Poor weather aggravated the organizational shortcomings of collectivist agriculture. Soviet leaders began to stress the fact that a large area of land is no longer available for agricultural expansion, and further production increases must come from higher productivity.

Mineral fertilizer, as pointed out in last year's issue, was selected as the principal vehicle for such agricultural intensification, and Khrushchev transferred to fertilizer much of the enthusiasm formerly lavished on other projects. He addressed a meeting of the Central Committee of the Party in December 1963, which dealt with expansion of the chemical industry and devoted much attention to fertilizer. More attention to agricultural intensification was given in another session of the Central Committee in February 1964. A program was initiated to step up production and use of fertilizer, and capital investment for this purpose was significantly increased. While fertilizer output increased between 1953 and 1959 from less than 7 million to 12.9 million tons (gross weight), it rose to 19.9 million tons by 1963. In 1964, output was reported at 25.6 million tons, or 31 percent above 1963. A sizable amount of mineral fertilizer in the past was not used domestically but was exported--3.9 million tons gross weight

in 1962 and 4.1 million in 1963. Much fertilizer was wasted because of inefficient transportation, lack of storage, and mishandling. Formerly, mineral fertilizer was used predominantly for industrial crops, like cotton, sugar beets, tobacco, tea and very little for grain. But in 1964 the program called for 10 million tons to be applied to grain, including 7 million to crops to be harvested in that year (the remaining 3 million tons were to be applied on crops sown in the fall of 1964 for 1965 harvest). While the precise amount of mineral fertilizer applied to grain crops in 1964 is not known as yet, it was doubtless considerably larger than

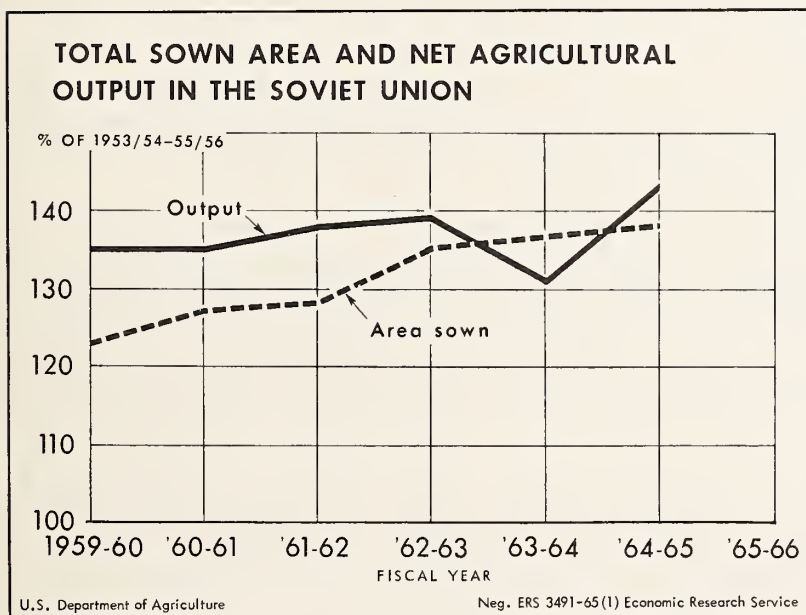


Figure 1

during the previous year and was a factor, though less important than weather, in improved yields.

The Khrushchev fertilizer program called for concentrating the application of fertilizer in areas where it could be used to the greatest advantage in terms of crop output, avoiding the dry regions where the value of fertilizer is marginal. The program also recognized and tried to remedy the inferior quality and the great waste in fertilizer transportation, storage, and handling. An educational campaign was initiated on efficient application of fertilizer, for which the know-how in many areas is lacking. A new "agro-chemical" (soil) service to survey farms and determine the most effective use of fertilizers was inaugurated. This attempt to improve the effectiveness of the fertilizer program is likely to be a slower process than the growth of fertilizer output.

The fertilizer program has apparently survived the downfall of Khrushchev. The economic plan for 1965, approved by the new leadership, calls for an output of 33.5 million tons of fertilizer, a reduction of only 1.5 million from the Khrushchev 1965 goal of 35 million tons. Thus an increase in output even larger than in 1964 is projected for 1965.

Next to fertilizers and other chemicals in Khrushchev's intensification program was the new emphasis on irrigation, particularly growing more grain under irrigation. Interest in irrigation in the Soviet Union has waxed and waned as devastating droughts have been followed by better weather. Traditionally, Soviet irrigated farming is concentrated in the cotton-growing Central Asian republics, and to a lesser extent in the Caucasian republics. Only a small proportion of the irrigated acreage has been used for grain. It was Khrushchev's aim to obtain higher and more stable grain yields by using more irrigated land and thus provide a "kind of insurance reserve." He stressed particularly the growing of corn under irrigation. The irrigated grain area increased only slightly in 1964, when it was over 5 million acres. There seems to be an opportunity of improving the utilization of irrigated areas apart from the planned irrigation construction. Reportedly 16 to 17 percent of the 23.2 million acres of land with irrigation networks in collective and state farms in 1962 was either not utilized at all, or was not irrigated for various reasons. 2/

More intensive farming generally requires, under modern conditions, increased capital inputs and investment which were supplied by the Soviet Government during the Khrushchev administration, though not on a scale considered adequate.

Increased investment in agriculture is likely to continue under the new leadership. It is planned to increase state investment in 1965 for production purposes to a record of 5.7 billion rubles, compared with 4.8 billion in 1964. Long-term state credits to collective farms are to be increased 19 percent to a record high of 1.5 billion rubles. This is exclusive of investment in industries manufacturing agricultural machinery, fertilizer, etc., and of investment by collective farms on their own account.

On the organizational side, another effort was made by the government in 1964 to insure greater flexibility in agricultural planning. This was also the aim of legislation in 1955, which was supposed to abolish the highly detailed centralized agricultural planning, confining the role

2/ L. Levanovsky, "Economic Effectiveness of Irrigated Farming," "Voprosy Ekonomiki, No. 11, 1962, p. 69-78.

of the government to planning of procurements. Collective farms, on the basis of procurement quotas, were to plan their own production without interference by authorities. There was, however, a loophole in the law; the plans prepared by the collective farms were to be reviewed by local authorities, primarily to examine whether procurement goals could be met. Actually, the authorities widely used this provision to significantly change the plans. Often they did not even wait for the farms to prepare their own plans, but confronted them, as in the past, with ready-made acreage and production goals. The Soviet press and official pronouncements, including those of Khrushchev, criticized for years such violations, but this apparently did not have any effect. On March 20, 1964, a decree was issued confirming the farm planning procedure established in 1955 and castigating its widespread violation. The decree made one significant amendment by providing that, in case of disagreement between authorities and collective and state farms regarding their plans, the "last word" remains with the farm management. It is too early to say how the new law will work, particularly what the relationship will be between farm management and the district agricultural administrations, which have wide powers of supervision over collective and state farms. Old bureaucratic traditions and habits of interference with collective farms may die hard.

In line with Khrushchev's renewed emphasis on the much-touted agricultural specialization, the decree of March 1964 required republic and local authorities to determine, during 1964-65, the specialization of each collective and state farm, providing for "the most effective combination of the various branches of production in accordance with natural and economic conditions." Such determination of farm specialization was to be made by the authorities jointly with the managers, specialists, and activists in each collective and state farm. How far this operation had actually proceeded by the time of Khrushchev's ouster and whether it will be continued under his successors is not known.

Khrushchev gave a number of hints during the year that he contemplated another reorganization of the agricultural administrative apparatus on the lines of specialized agencies dealing with certain crops and livestock. Such a proposal was expected to be made at the November session of the Central Committee and probably would have been modeled on the one reorganization measure carried out before Khrushchev's downfall--a central Poultry Administration for large poultry farms. No further step of this kind was taken in 1964 after Khrushchev's downfall.

Serious attention was focused on the so-called backward or weak farms. This subject has been much to the fore for many years in Soviet agricultural and economic literature and official discussion. But despite the many reforms of the Khrushchev era--increased government procurement prices, improved managerial personnel, increased investment and credit--a serious economic gap still exists between different farm units. During the past year, the government decided to strengthen weak collective farms by using long-term credits, reducing taxes (deduction of 75 percent of the income tax obligation) and granting money for such operations as liming of acid soils and drainage construction. 3/

Increased economic incentives to farmworkers continued to be stressed in 1964 by the Khrushchev administration and the press. One significant step in July 1964 was the establishment of pensions on a national scale for aged and invalid members of collectives, paid maternity

3/ Finansy SSSR. No. 4, 1964.

leave, and some other social security benefits. Previously, each collective farm was supposed to have its own pension plan, but many had none and there was considerable variation in existing plans. Some categories of workers, transferred to collective farms after liquidation of machine-tractor stations, and workers in state farms were covered by the national social security system. Beginning January 1965 a unified collective farm social security system was established, separate from the national system. A centralized fund was created for this purpose; most money will be contributed by collective farms--1 billion rubles--while the state will provide 400 million rubles. The number of collective farm pensioners in 1965 is estimated at 6.8 million. ^{4/} The pensions will vary from a minimum of 12 rubles per month to a maximum of 102 rubles, which is also the maximum for state farmworkers under the national system. Collective farms are permitted to pay additional benefits from their own treasuries. Paid maternity leave will be granted for 56 calendar days before and after childbirth. The new farm social security law is a modest yet significant step toward equalizing the economic status of collective farmers and workers in state enterprises.

It appeared from various statements by Khrushchev during the last months of his leadership that he was ready to tackle the crucial question underlying increased economic incentives to farmers and the more general problem of improving the national standard of living, which he so often stressed. This is the question of providing an adequate supply of manufactured consumers' goods at reasonable prices and tolerable quality. For unless there is an adequate supply of goods to meet the demand resulting from larger incomes generated by increased economic incentives, an inflationary situation of "rubles chasing goods" is bound to occur.

While there are troublesome questions of improvement of the inferior quality and inefficient marketing of goods, central to this problem is the priority in allocation of resources between industries manufacturing consumer goods (light industry) and producer goods and armaments (heavy industry). The latter has been strongly favored by Soviet policy since intensive industrialization began 35 years ago. Efforts to reverse this order of priorities, without which an upsurge of consumer goods production could not be achieved, met with strong resistance by top Soviet leaders, including Khrushchev.

While there were significant clues to Khrushchev's increasing consumer-mindedness and a changed attitude on the question of industrial priorities, there were no firm quantitative commitments before his ouster which would indicate how far he was prepared to go. His successors, however, while less positive in their statements, made decisions with respect to industrial growth which appear to be along Khrushchev's lines. The revised economic plan for 1965, adopted in December 1964, stipulated the same rate of growth in 1965 as in 1964 (8.2 percent) for heavy industry, while it increased the growth rate of light industry from 6.5 percent in 1964 to 7.7 percent in 1965.

Thus the growth gap between the two segments of industry, which was even wider in previous years, would be somewhat narrowed. This points to a somewhat greater emphasis on consumer goods, but planned goals for light industry in the past were often underfulfilled. In the 1965 plan, heavy industry still has a higher rate of growth even though it accounted in 1963 for three-fourths of total Soviet industrial production. Whether Khrushchev may have contemplated a change of a greater magnitude, which would have made the Soviet economy

^{4/} Minister of Finance Garbuzov, Izvestiya, Dec. 10, 1964.

much more consumer oriented, is in the realm of speculation. The campaign in the Soviet press continued unabated after Khrushchev for improvement of manufactured goods and services, for more efficient marketing, and for production oriented much more closely to consumer demand than has been the case heretofore.

Though Khrushchev's name usually has not been mentioned since his ouster, he was nevertheless publicly castigated for his stewardship of agriculture--and this despite the good 1964 harvest. Sometimes his own criticisms were turned against him. Thus, an editorial in Pravda of December 15, 1964, had the following indictment:

"In the management of agriculture there were made serious mistakes. The basic principle of socialism--the economic interest of collective farmers, the remuneration of people according to their work--was violated. The passion for administration by ordering about, for continuous reorganizations without anything useful being accomplished, for boasting, and for empty talk had a detrimental effect on agriculture.

As if to emphasize the contrast with Khrushchev, his successors proceeded cautiously in matters of agricultural policy. Premier Kosygin specifically rejected any haste in agricultural reorganization. However, some steps were taken and certain tendencies became discernible during the first months of the new regime. The splitting of the party and the government apparatus on the local level into agricultural and industrial segments, carried out by Khrushchev in 1962, with consequent close involvement of party officials in the operational aspects of agriculture and industry, was abandoned and the separate segments united.

A more liberal policy was proclaimed toward the private sector; livestock raising was particularly encouraged. The extra restrictions placed upon private plots and livestock numbers during the past few years were lifted. The special taxation of city inhabitants possessing livestock was abolished. The sale of feedstuffs for private livestock was organized in some areas by the state.

The rationale of these measures is two-fold: to stimulate increased livestock production after the distress slaughter of 1963, and to win popularity for the new regime. Such liberalization has occurred in the past--the last time in 1953-54 under Khrushchev and Malenkov--but usually the period of relaxation was followed by a tightening of the screw, as was the case under Khrushchev after 1956.

The new regime also proceeded in the footsteps of its predecessor by raising the procurement price of milk without, however, increasing the retail price to the consumer as was done in 1962, when both producer and consumer prices of meat and butter were raised sharply. At that time the seasonal reduction in milk prices paid to the farms in the summer was abandoned, which had the effect of increasing the average price of milk over the year.

Among the tendencies which have become evident since Khrushchev's downfall is what seems to be a campaign in the Soviet press against Lysenkoism. Lysenko is the acknowledged leader of the Michurinist (or Lysenkoist) school of biology, which adheres to the discredited doctrine of the inheritance of acquired characteristics, rejects modern heredity theory, and wages war on genetic science. In recent years, Lysenko's stock was apparently high with Khrushchev, and this had detrimental influence on biological research.

Another tendency is the mounting criticism of Khrushchev's pressure to grow corn-- "the queen of the fields"--in many areas which were not climatically suitable or did not possess the resources for successful corn production. This is paralleled by increased interest in grasses (hay crops) in the northern and north central regions. Grasses were tabooed by Khrushchev, despite their suitability to these areas. But a number of Khrushchev's innovations, such as increased use of fertilizers, social security benefits, emphasis on economic incentives, seem to be retained by the new leadership.

Foreign trade

The disastrous Soviet grain harvest of 1963 began to be reflected in foreign trade statistics of that calendar year, the latest period for which data are available from Soviet sources (tables 7 and 8).

The volume of grain exports dropped a fifth, from 8.1 to 6.6 million tons, while grain imports soared to 3.6 million tons.

The effect of the enforced cut in grain exports was partially offset by larger exports of other agricultural commodities so that total agricultural exports declined only 4 percent, while the total value of agricultural imports increased nearly 16 percent. The value of trade in all commodities rose 3 percent for exports and 9 percent for imports.

The costly consequences of having to import huge quantities of wheat were minimized slightly by smaller imports of raw sugar and natural rubber. Some of the problem of balancing payments for the large wheat purchases were met by increasing shipments of gold. Furthermore, imports of machinery and equipment from the industrial countries were cut back in 1963. Imports of all commodities increased by over 9 percent. Since the major portion of the wheat imports were shipped in 1964, efforts will likely be continued to decrease the resulting imbalances.

Despite the influence of the poor harvest on agricultural trade in 1963, the commodity pattern of net exports and net imports remained the same in 1963 as in 1962, with two exceptions (tables 7 and 8). Meat and meat products, net imports in 1962, became net exports in 1963, possibly in part because the difficult feed situation resulted in heavy hog slaughterings in the second half of 1963. The record imports of wheat flour in 1963 slightly exceeded exports of the same commodity. Large as were the imports of wheat in 1963, the Soviet Union continued to be a net wheat exporter. Other net exports included other grains (except rice), oilseeds, oilcake, vegetable oils, and cotton. Among nonagricultural commodities, significant net export trade occurred in mineral fertilizers, tractors, combines, and other agricultural machinery and equipment.

Net imports of agricultural commodities in 1963 continued to include animals for slaughter, eggs, rice, raw sugar, fruits, vegetables, coffee, cocoa, tea, raw hides, and natural rubber.

Among the principal agricultural commodity exports that rose in 1963 were four, principally exported to East European countries, indicating increased demands of these countries. They were meat and meat products, flour, barley, and wool. The availability of meat for export was also related to the tight feed situation and heavy slaughter in the Soviet Union. Barley production increased substantially in 1962, suggesting that barley exports may have been substituted for exports of other grains.

Table 7 .--Soviet Union: Principal agricultural imports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
- - - - - 1,000 metric tons - - - - -					
Animals for slaughter	117.5	121.2	152.5	136.9	86.2
Meat and meat products	166.9	69.9	59.7	149.1	37.4
Eggs 1/	232.7	113.2	160.5	66.3	76.7
Wheat	232.9	98.0	655.9	45.1	3,052.5
Flour, in terms of grain 2/	48.6	29.4	28.1	27.6	346.5
Rice, milled	537.0	501.1	19.9	337.5	193.3
Fruit, fresh	228.9	334.8	316.5	345.6	407.2
Fruit, dried	47.0	76.7	83.9	77.2	113.4
Vegetables	115.1	214.9	281.6	291.7	347.9
Sugar, refined equivalent	510.1	1,614.2	3,387.4	2,339.2	1,070.9
Coffee, cocoa, and tea	51.0	99.8	65.2	87.4	105.4
Tobacco,	80.1	74.2	57.8	66.6	93.4
Hides and skins 1/	17.6	23.0	18.5	19.5	26.4
Oilseeds	708.9	418.5	90.2	57.3	65.2
Rubber, crude	164.5	190.9	360.3	361.7	298.4
Cotton	102.5	193.1	141.6	150.2	225.6
Wool, scoured	53.1	61.5	55.3	48.6	42.4
Vegetable oils	96.5	59.3	54.4	15.1	37.3

1/ Millions.

2/ 80 percent milling rate.

Source: Vneshnyaya trgovlya SSSR za 1955-59 gody and subsequent editions.

Table 8.--Soviet Union: Principal agricultural exports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
- - - - - 1,000 metric tons - - - - -					
Meat and meat products	66.6	78.1	66.0	133.7	183.0
Butter	37.1	37.2	55.6	69.7	65.0
Wheat	3,773.9	5,624.4	4,800.6	4,765.2	4,080.8
Flour, in terms of grain 1/	91.4	47.1	314.0	314.2	345.5
Rye	533.8	682.5	1,088.0	1,300.3	815.0
Barley	592.9	324.0	1,006.8	466.8	594.2
Oats	171.2	41.5	179.9	25.3	22.0
Corn	212.2	122.2	405.6	1,256.7	723.1
Sugar, refined	194.4	242.9	2/886.3	792.4	802.4
Oilcake	278.3	496.4	386.1	348.6	193.2
Tobacco,	6.2	1.6	2.9	1.8	1.8
Oilseeds	61.3	110.4	120.7	112.7	101.2
Cotton	324.1	390.0	382.6	343.6	321.5
Wool, scoured	15.1	18.0	28.1	24.2	27.6
Vegetable oils	52.4	91.8	121.8	152.5	258.9

1/ 80 percent milling rate assumed. 2/ Includes 501,000 metric tons of raw sugar (equivalent to 472,600 metric tons refined) to Communist China.

Source: Vneshnyaya trgovlya SSSR za 1955-59 gody and subsequent editions.

Increased exports of refined sugar and vegetable oils in 1963 may have been occasioned by advantageous prices and world demand. The Soviet Union has been steadily increasing the number of countries to which it sells sugar. The high price of sugar on the world market encouraged the upward trend in exports. Sugar exports increased 10 percent and were shipped to 32 non-Communist countries plus Yugoslavia. A good oilseed crop and strong demand for vegetable oils probably explained the sharp increase in these exports, especially to non-Communist countries, although over half of these exports were sent to Cuba and East European countries.

Agricultural exports that declined in 1963 included butter, grains, oilseeds, oilcake, and cotton. Exports of wheat, rye, oats, and corn were 23 percent less in 1963 than in 1962. Because the cutback in exports of these commodities was heavier to non-Communist countries, the share of these exports to East European countries increased slightly to 74 percent. Furthermore, the Soviet Union did not repeat in 1963 the unusual shipment of wheat and rye to Communist China in 1962. The tight feed situation in the Soviet Union undoubtedly caused the decline in oilseed exports and the sharp drop in exports of oilcake. Virtually all of the oilseeds were shipped to East Germany and Czechoslovakia, with exports to the former increasing in 1963 and exports to the latter being cut in half. Oilcake is normally exported to Western Europe to earn hard currency, but domestic requirements probably curtailed this operation.

The Soviet Union has imported small quantities of wheat every year since 1955, with the volume sharply increasing following poor harvests, but total imports of wheat for 1955-62 were less than two-thirds of the wheat imported during 1963. Nevertheless, the 3 million tons imported in 1963 were less than Soviet wheat exports the same year. Totaling the wheat purchases from Canada, the United States, and Australia for shipment in 1964, Soviet wheat imports in calendar 1964 were over twice the record imports in 1963. The relatively good wheat crop of 1964 precluded the necessity of again purchasing wheat in large amounts. The grain trade data for 1964 will be extraordinary, but by the time these figures are published the Soviet Union probably will have returned to its traditional role of net exporter. Since the wheat purchases negotiated in 1963/64 included large imports of flour, these imports probably continued to be unusually high in 1964.

Many of the principal agricultural imports rose in 1963, probably in partial satisfaction of Soviet consumer demand. Since most of these imports come from either East European countries or developing countries, they do not cost hard currencies. Domestic economic plans and bilateral trade balances may determine the amount of this trade. Increased imports of agricultural commodities must be accepted in payment for industrial exports, including aid extended for political reasons.

Imports of fresh fruit and all vegetables, most of which come from East European countries, especially Bulgaria, increased nearly 20 percent from 1962. Oilseeds, chiefly from developing countries, rose slightly. Sharp rises took place in imports of dried fruit, coffee, cocoa, tea, raw hides, vegetable oils, and cotton--all of which come principally from non-Communist developing countries. Tobacco imports also increased 40 percent, with the steeper rise from the East European countries. Bulgaria supplied 45 percent of the 93,000 tons in 1963.

Agricultural imports that fell sharply in 1963 included animals for slaughter, meat and meat products, and rice. Most of the animals came from countries bordering the Soviet Union. Total meat imports dropped 75 percent, but the cutback from Communist countries was only

48 percent. Rice, which used to be supplied in large amounts by Communist China, was virtually unavailable from this source in 1960 and 1961, but in 1962 Communist China supplied 150,000 tons. No rice was imported from Communist China in 1963 and total imports were down, although supplies obtained elsewhere increased slightly. In the first half of 1964, the United States shipped 68,000 tons of milled rice to the Soviet Union.

The largest drop in agricultural imports was a halving of Cuban raw sugar, bringing the level of total sugar imports, in terms of refined, to a little over 1 million tons. Peak imports were in 1961 (3.4 million tons), but declining Cuban production has reduced Soviet imports despite the effort to maintain balanced trade. Because of rising prices the value of the 1963 imports was not reduced as much as the volume.

Imports of crude rubber declined nearly 18 percent, falling to third place after imports of wheat and sugar. It is not known to what extent this drop was occasioned by the necessity of conserving hard currency for the more pressing need of importing wheat. The Soviet Union must pay in pounds sterling for Malaysian rubber, since it does not export goods to Malaysia. It may not have been possible in 1964 for the Soviet Union to continue to obtain about 80 percent of its rubber imports in this way.

U.S. exports of agricultural commodities to the Soviet Union (according to U.S. statistics) have fluctuated from none in the fiscal year 1959/60 to about \$134 million in 1963/64. This last amount included 64,383,000 bushels of the 66,060,000 bushel wheat deal. Almost all of it was shipped directly to the Soviet Union, except 2,443,000 bushels shipped by way of Canada. The final shipment of 1,677,000 bushels was sent by way of Canada after June 30, 1964. The total sale was less than 10 percent of U.S. exports of wheat in 1963/64.

Agricultural exports from the United States to the Soviet Union reached \$13 million in 1960/61 and declined to just over \$9 million in 1962/63. The only commodities shipped every year since 1960/61 have been inedible tallow and cattle hides. Tallow in excess of 130 million pounds was shipped in both 1960/61 and 1961/62. During the following year, the quantity dropped to 7 million pounds but increased to 59 million in 1963/64. Shipments of cattle hides fluctuated during this period from a low of 312,000 skins in 1961/62 to a high of 842,000 in 1963/64. That year was distinguished not only by unusual wheat exports but also by shipment of over 150 million pounds of rice valued at nearly \$10 million.

U.S. imports of agricultural commodities from the Soviet Union have been even much smaller than exports. They have consisted principally of cotton linters, licorice root, bristles, and other miscellaneous items.

POLAND

Production

Agricultural production in Poland during 1964/65 increased slightly (about 2 percent) over 1963/64 but still remained below the record harvest of 1961/62 (table 1). Good harvests of vegetables, fruits, and root crops and increases in livestock products offset declines in grains, oilseeds, and hay crops.

Production of the 4 major grains (wheat, rye, barley, and oats) was down by nearly 5 percent from the 1963 crop (table 9). Dry hot weather during the spring and summer resulted

Table 9.--Poland: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average			1962			1963			1964 1/		
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 hectares	metric tons	1,000 hectares	metric tons	1,000 hectares	metric tons	1,000 hectares	metric tons	1,000 hectares	metric tons	1,000 hectares	metric tons
Field crops:												
Wheat	1,449	2,276	1,393	2,700	1,542	3,067	1,640	3,068	1,640	3,068	1,640	3,068
Rye	5,079	7,288	4,700	6,685	4,383	7,124	4,417	6,956	4,417	6,956	4,417	6,956
Barley	752	1,170	663	1,315	749	1,479	745	1,268	745	1,268	745	1,268
Oats	1,674	2,448	1,584	2,740	1,682	2,830	1,574	2,236	1,574	2,236	1,574	2,236
Potatoes	2,745	34,135	2,910	37,817	2,840	44,868	2,845	48,065	2,845	48,065	2,845	48,065
Sugar beets	366	7,147	430	9,652	372	10,661	440	12,451	440	12,451	440	12,451
Rapeseed	109	109	250	361	205	230	232	210	232	210	232	210
Tobacco	32	42	31	37	34	73	48	87	48	87	48	87
Livestock:												
Products:												
Red meat 2/	---	1,466	---	1,743	---	1,622	---	1,700	---	1,700	---	1,700
Poultry 2/	---	50	---	75	---	72	---	75	---	75	---	75
Milk, cows	---	11,078	---	12,861	---	12,641	---	12,700	---	12,700	---	12,700
Eggs												
	---	Million units	---	Million units	---	Million units	---	Million units	---	Million units	---	Million units
	---	4,485	---	6,092	---	5,751	---	5,800	---	5,800	---	5,800
Number: 3/												
Cattle	---	8,219	---	9,590	---	9,841	---	9,940	---	9,940	---	9,940
Hogs	---	11,588	---	13,617	---	11,653	---	12,918	---	12,918	---	12,918
Sheep	---	4,053	---	3,251	---	3,056	---	3,022	---	3,022	---	3,022
Horses	---	2,660	---	2,657	---	2,620	---	2,593	---	2,593	---	2,593

1/ USDA preliminary estimates, except for grains.

2/ Carcass weight.

3/ June.

Sources: Rocznik Statystyczny, 1963, Biuletyn Statystyczny, No. 12, 1964.

in early maturing and reduced yields of both winter and spring grains. Some of the decline in yields was offset by increased area in wheat and rye, but the total outturn for the 4 major grains was still less than the 1959-63 average of 14.3 million tons. Almost one-fourth of the rape area was winterkilled, but because of increased acreage, production in 1964 was only about 9 percent below 1963. Although there are heavy losses of rape each year, the demand for vegetable oils mounts. The 1964 production of margarine was about 150,000 tons as compared to 23,000 tons in 1953. To meet the demand the government continues to drive for increased rape acreage.

The 1964 potato harvest, although on a slightly smaller acreage, set a record. Despite slightly lower yields, a record sugar beet crop was harvested in 1964, as a result of an 18 percent increase in area. Production of refined sugar was estimated at 1.5 million tons, about 15 percent greater than in 1963/64. Vegetable production in 1964 was much better than the previous year, with notable yield increases for onions, carrots, beets, tomatoes, and cucumbers. The fruit harvest appeared to be one of the best since the record 1960 crop. Apples in particular were abundant and of high quality.

Hay and forage production was down in 1964. Hot and dry weather greatly reduced yields, cutting production below 1963, which was also considered a poor year. Production of tobacco continued to rise due to expanded acreage. Production of hops equaled or exceeded the 1963 crop.

Livestock production last year showed a definite improvement over 1963. Depleted herds of hogs reported in June 1963 made a good comeback. The June 1964 census indicated that hog numbers had increased nearly 11 percent. This increase still left hog numbers 5 percent below the June 1962 levels. Total cattle numbers increased 1 percent over the previous year, but fewer cows were reported. Sheep numbers continued to decline but at a slower rate.

With the effort to build up livestock numbers, meat production during the first half of 1964 lagged behind 1963 levels. During the first 10 months of 1964, government purchases of meat were nearly 3 percent lower than during the same period in 1963. Milk purchases were nearly 2 percent higher and eggs about 3 percent higher. Through increased imports of feedgrains the government plans to make more feed available for production of meat and milk during the remaining part of 1964/65. This should help offset low production of hay and other feed crops. The drive for increased numbers of livestock is expected to continue during 1965.

Agricultural inputs

Small size of farms and limited capital preclude any significant use of farm machinery on private farms. Mechanization is concentrated on state and collective farms, which accounted for 14 percent of the arable area in 1963 (table 32), and in agricultural circles (government-sponsored associations of private farmers for the purpose of mechanization and purchase of other farm inputs). Although the number of tractors in agriculture increased from 61,989 in January 1961 to 96,088 in January 1964, only 13 percent were privately owned in 1963 (table 32). A significant shift in allocation of tractors has taken place during the past few years. The greatest increase has been in agricultural circles, a 40 percent rise over January 1963, followed by collective and state farms. The number of tractors on private farms has remained at 12,500 for the past 5 years.

Fertilizer consumption continued to rise during 1964, and since domestic production supplies only about half of the needs, mineral fertilizer imports are large. Of the total mineral fertilizer available to agriculture, private farms, agricultural circles, and collective farms consume about 75 percent while state farms account for the rest. This disproportion in fertilizer allocation is evident in the application per hectare. During 1962/63, 59.9 kilograms of fertilizer, in terms of plant nutrients, were used per hectare of sown area in Poland. During the same period the private sector applied 52.9 kilograms per hectare of sown area and the socialized sector 108.8 kilograms. Plans through 1965 and during the new 5-year plan (1966-70) call for a further increase in fertilizer production and utilization.

Policy

Agricultural policies did not change significantly during 1964/65. Small scale family farms continue to dominate Polish agriculture, and accounted for 86 percent of the sown area and 89 percent of gross agricultural production in 1962. They range in size from 0.5 to 20 hectares, with an average of 5 hectares. There are no legal limitations on size of farms, but an escalating land and output tax effectively inhibits significant increases. Compulsory deliveries of grains, potatoes, and meat are expected to continue at least through 1970, the last year of the new 5-year plan. The government has not set a date when private farmers must join agricultural circles. It continues instead to encourage participation for economic advantages, especially mechanization of agriculture. The purpose in developing agricultural circles, however, is not to strengthen independent farming. The goal is to "educate" farmers in the path toward collectivization. Judging by the reluctance of farmers to join, this ultimate goal is recognized and rejected.

Increased planned investment in the 5-year plan is an important indicator of the growing emphasis on agriculture. While total investment is planned to increase by 38 percent in 1966-70, agricultural investment is to increase 60 percent, thus raising its share of total investment from 16 to 18 percent. The overall increase in agricultural production planned for this period is a moderate 14 or 15 percent compared to the 22 percent goal of the current plan. Greater emphasis is placed on grain production, which is to increase 17 percent, than on animal husbandry, which is to increase about 11 percent. Eventual elimination of grain imports is an important goal of the next 5-year plan.

Foreign trade

Agricultural products are significant in Polish foreign trade. Livestock products and sugar are the major agricultural exports, while imports consist of wheat, feedgrains, cotton, wool, fats, oilseeds, tobacco, and hides.

Exports of meats in 1963 declined as did butter, eggs, and sugar (table 11). In the first 9 months of 1964 as compared with the same period in 1963, meat exports increased slightly, butter exports rose, eggs continued to decline, and exports of sugar rose sharply.

Agricultural imports in 1963 rose with few exceptions, such as wool and hides (table 10). There were unusually large imports of meat in 1963, which were however much less than meat exports. Imports in the first 9 months of 1964 continued to increase over a year earlier, almost without exception. Imports of animal and vegetable fats doubled. Imports of the less significant grains declined. Meat imports dropped about 30 percent from the exceptionally high 1963 level.

Table 10.--Poland: Principal agricultural imports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
	- 1,000 metric tons -				
Meat and meat products	14	18	10	4	46
Wheat	1,035	1,700	1,739	1,504	1,673
Rice, milled	44	100	60	51	99
Coarse grains	348	386	681	670	949
Fruits and vegetables	1/14	39	62	145	116
Fruit, citrus	28	32	36	35	34
Tea and coffee 2/	7	7	6	11	14
Cocoa beans 2/	7	11	10	12	12
Tobacco	12	12	12	15	19
Cotton	102	127	140	121	123
Vegetable oils and animal fats 3/	84	108	113	102	99

1/ Less than 5 years.

2/ Metric tons.

3/ Includes oilseeds in terms of oil.

Source: Rocznik Statystyczny, 1963.

Table 11.--Poland: Principal agricultural exports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
	- 1,000 metric tons -				
Pigs for slaughter 1/	2/15	29	64	46	9
Meat and meat products 3/	75	93	153	154	125
Canned hams	14	17	17	17	18
Butter 4/	10	29	27	28	19
Eggs 4/	522	1,123	1,636	1,219	783
Coarse grains 5/	46	100	125	52	104
Sugar, refined	(207	244	404	469	160
Sugar, raw .....	(	72	257	265	53
Hops 6/	2/15	81	136	312	593
Lard	6	4	8	23	5

1/ Slaughter weight. 2/ Less than 5 years. 3/ Excluding canned hams.

4/ Millions, fresh equivalent. 5/ Includes malt in terms of barley. 6/ Metric tons.

Source: Rocznik Statystyczny, 1963.

The fluctuations in foreign agricultural trade closely reflected problems of production, including the need to build up livestock numbers, especially of hogs, and the decline in oil-seed production. The decline in sugar production in 1962 resulted in lower exports in 1963 despite strong demand and high prices. A large production in 1963 was reflected in increased exports.

In recent years, about two-thirds of Polish total foreign trade has been with Communist countries, of which about half was with the Soviet Union. However, a large share of Poland's agricultural commodities is traded with the western countries; exports of livestock products, including canned ham, bacon, butter, poultry, and eggs, provide an important source of foreign exchange. Imports from the West are mainly wheat, rice, tobacco, cotton, fats, and raw hides.

The United States accounted for about 10 percent of total Polish trade with non-Communist countries in 1963. In 1957 the United States and Poland concluded the first P.L. 480 agreement, which resulted in increased imports of agricultural commodities by Poland. The last P.L. 480 Title I agreement was concluded in February 1964 in the amount of \$60.9 million, bringing the total value of commodities shipped to Poland under Title I since 1957 to \$538.2 million including ocean transportation. During the first 9 months of 1964, in addition to P.L. 480 purchases, Poland purchased from the United States on a commercial basis \$52.7 million of agricultural commodities. Included in this purchase were: 441,000 metric tons of wheat, 185,100 tons of feedgrains, 8,100 tons of oils, 2,800 tons of butter, 1,300 tons of pork, and 10,200 bales of cotton.

During the past few years the trend has been to steer U.S.-Polish trade toward a largely commercial basis. In September 1964 the U.S. Congress withdrew Title I, limiting Polish purchases under P.L. 480 to Title IV. At present, Polish purchases of U.S. agricultural commodities may be made either on a commercial basis or under Title IV with dollar repayment over 5 years.

Polish grain imports (primarily wheat) are expected to continue in the range of 2.5 to 3 million metric tons, about the same as in 1963/64. In addition to grain imports from the United States, Poland concluded in 1963 a 3-year agreement with Canada for the importation of 1.2 million metric tons of wheat. A similar agreement was concluded with France in 1964. The Soviet Union supplies annually about 800,000 metric tons of wheat and other grains to Poland under a long-term agreement.

EAST GERMANY

Production

East German agricultural production in 1964/65 is very similar to that of 1963/64 and, in view of the momentous changes during 1960/61, surprisingly like the average level of production during the period 1955-59 (table 12). This apparent uniformity obscures a multitude of changes in patterns of production, organizational structure, and agricultural policy, but it points up the fact that agricultural output in the past 2 years has been much as it was before the completion of collectivization in 1960, and that trends evident at that time are continuing.

Production of grains and sugar beets was estimated to be roughly the same as in 1963. The potato crop was estimated to be down somewhat while rape production was up slightly.

Table 12.--East Germany: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64 1/

Item	: 1955-59 average :		: 1962 :		: 1963 :		: 1964 <u>2/</u> :	
	: Area :	: Production :	: Area :	: Production :	: Area :	: Production :	: Area :	: Production :
	: hectares	: metric tons	: hectares	: metric tons	: hectares	: metric tons	: hectares	: metric tons
Field crops:								
Wheat	415	1,183	423	1,236	426	1,203	430	1,200
Rye	1,110	2,137	811	1,623	820	1,574	820	1,575
Barley	334	870	374	1,094	423	1,107	425	1,100
Oats	455	1,050	372	990	315	758	315	760
Potatoes	795	11,633	742	12,221	747	11,855	740	11,000
Sugar beets	218	5,346	232	4,721	232	5,868	232	5,800
Rapeseed	128	161	105	155	107	120	110	135
Livestock:								
Products:								
Red meat <u>3/</u>	---	1,015	---	978	---	1,204	---	1,264
Poultry <u>3/</u>	---	46	---	73	---	73	---	75
Other meat <u>3/</u>	---	58	---	52	---	53	---	50
Milk, cows	---	4,809	---	4,694	---	5,012	---	5,263
Eggs	---	Million units <u>2,668</u>	---	Million units <u>3,100</u>	---	Million units <u>3,250</u>	---	Million units <u>3,500</u>
Number: <u>4/</u>								
Cattle	---	5/3,842	---	4,547	---	4,507	---	4,614
Hogs	---	5/8,279	---	8,864	---	8,045	---	9,288
Sheep	---	5/1,958	---	1,930	---	1,792	---	1,899
Horses	---	2/635	---	403	---	369	---	341

1/ USDA estimates, except area and livestock numbers. 2/ USDA preliminary estimates. 3/ Liveweight. 4/ End of previous year: 1956-59, 3 December; 1962-64, 30 November. 5/ 1956-59.

Source: Statistisches Jahrbuch der Deutschen Demokratischen Republik, 1964.

Meat production in 1964/65 is expected to be slightly better than during the preceding year, while milk and egg production should improve even more. What had appeared to be a better than average grain crop at the beginning of the season deteriorated due to drought during June and July. This drought also trimmed vegetable and potato outturn; supplies of both are somewhat below a year earlier. Sugar beets were little affected by the drought and benefited from favorable weather in the late summer and fall. The supply of fruit seems to be down from a year earlier indicating damage to fruit production by the drought. Supplies of livestock feed, consistently inadequate, remained so in 1964.

Since the spring of 1963 there has been considerable improvement in the livestock situation, reflected in increased numbers and greater output of meat, milk, and eggs. These improvements have been evident in the consumer supply, but there were indications that toward the end of 1964 the livestock herds were again pressing against the feed supply.

Changes in inputs and production

There were no surprising advances in agricultural production, but there was an overall recovery from some of the worst effects of the completion of collectivization in 1960. The agricultural situation is much better than it was in 1961 and 1962. Maintenance of this level of production and gradual improvement on a more realistic basis, seems to be the present policy objective.

Weather in East Germany, as in many of the other East European countries, is not especially favorable for crop production. Annual fluctuations in output of certain crops occur rather regularly. Weather accounts for much of the decline in rapeseed production in the past 2 years; sharp variations in the sugar beet and potato crops are usually correlated with extremes of weather. These yearly fluctuations, however, provide little insight into trends in agricultural production, and the degree to which collectivization has altered these trends.

Over the past decade and a half, the East German agricultural economy has gradually shifted from a predominantly grain to a grain-livestock economy. The present situation appears to be a continuation of these trends. The total grain area has decreased steadily--from 3.1 million hectares in 1934-38, 2.7 million in 1953, to 2.4 million hectares in 1960, and to approximately 2.1 million in 1964. On the whole, grain production has remained fairly constant, fluctuating between 5 and 6 million tons. Among grains, the area planted to wheat, rye, and oats has been declining for the past decade while that in barley and mixed grains has increased. Wheat production has remained fairly uniform between 1 and 1.5 million tons over the decade, while rye has declined, from more than 2 million tons to approximately 1.5 million tons during the same period. Barley production has remained steady at 1 to 1.2 million tons. The area of oilseed crops and potatoes declined gradually during the past decade. Sugar beet area and production, although fluctuating, has remained fairly constant.

Whereas major declines in the area sown to grains and most industrial crops has been the trend of the last decade, equally large increases have taken place in the area occupied by a variety of nongrain feed crops and pasture. Changes have also taken place within the feed crops. Root crops for feed have declined, but very large increases in the area occupied by corn for green feed and silage, various annual grasses, clover, fodder rye, and pastures have taken place. There have also been increases in the area devoted to orchards and vegetables, and some land has been left idle; but the significant change is the increases in nongrain feed crops.

These trends reflect a major transformation which has taken place in East Germany since the Second World War. Before the war the area of present East Germany was traditionally a grain surplus region. With the separation of the Eastern zone from the rest of Germany and its close association with the Soviet Union, it was necessary to create in that region a more balanced agricultural structure. This primarily involved increasing the domestic production of livestock. Today, about 1 million more cattle and from 3 to 4 million more hogs are maintained than before the war. The Soviet Union has been a poor supplier of livestock products, but usually a good supplier of grains. Thus, East Germany imports large quantities of grain, usually about 2 million tons, grows domestically about the same amount of grains as in the past on a smaller area, produces much larger amounts of livestock products and has ceased to be an exporter of agricultural products.

The completion of collectivization in 1960 does not seem to have altered these trends significantly. Yields were high in the late 1950's, reflecting high rates of fertilizer application, and they are high now for the same reason (table 31). Utilization of plant nutrients averaged 109 kilograms per hectare of agricultural land in 1951/52, 148 in 1958/59, and 159 kilograms in 1962/63. In addition, investment in machinery and other production requisites in agriculture has increased. Thus, inputs of land and labor have declined over the decade while production has remained fairly constant. This should not obscure the sharp drop in production immediately following collectivization in 1960. It does indicate, however, that a fairly long-run pattern is continuing.

Policy

East German agricultural policy, as outlined in earlier reports, remains wedded to complete collectivization and the gradual tightening of controls over the more loosely collectivized farms. It appears to rest heavily on offsetting losses in land and labor, and the adverse effect of collectivization, by increasing the allocation of inputs of capital to agriculture with special emphasis on animal husbandry. Although output plans are often unrealistically high, comments by East German officials during the past year or two seem to reflect a more critical evaluation of present possibilities. Thus, it appears that chronic shortages of labor in agriculture, especially during harvest, and a much reduced base in terms of sown area for grains are taken as conditions which can not be altered immediately. For example, there has been a discussion in recent months of the implication for the East German economy of a projected decline in the population of working age until the early 1970's.

The year 1964 saw the initiation of the "new economic system." The heart of this system is higher prices for agricultural commodities and greater stress on realistic cost and production accounting. Incentives have been strengthened and machinery from machine tractor stations has been sold to collective farms. The system of subsidies to state farms has been curtailed and both collective and state farms are being placed on a "profitability" basis. Responsibility for losses is supposed to be more clearly definable and penalties for such losses are to be imposed. On the other hand, above-average accomplishments are to be rewarded. It is too early to judge the effectiveness of these policies, but they appear to fit into the pattern of attempting to make the best of the existing situation in a somewhat more realistic way than was evident two or three years ago.

Food situation and agricultural trade

The food situation and agricultural trade pattern in East Germany reflect these trends in production and policy and East Germany's status as an industrial country. The food situation

Table 13.--East Germany: Principal agricultural imports, average 1955-59, annual 1960-1963

Commodity	1955-59 average	1960	1961	1962	1963
<hr/>					
	1,000 metric tons				
Meat and meat products	111.0	104.0	107.5	202.2	139.1
Butter	34.6	44.4	51.2	55.7	43.8
Cheese	12.6	20.2	21.2	18.2	16.8
Eggs and egg products <u>1/</u>	179.9	57.0	20.8	55.3	164.8
Wheat	973.2	1,520.0	1,250.0	1,238.0	1,023.0
Rice	73.7	142.8	30.3	30.4	30.7
Coarse grains	787.9	572.5	681.2	1,008.6	666.3
Fruit, fresh and tropical	162.5	185.4	212.5	211.1	236.4
Fruit, canned and juices	14.3	41.9	39.6	31.2	19.7
Potatoes	33.6	54.7	90.4	129.1	130.5
Vegetables, fresh	67.3	115.6	102.9	94.6	153.2
Vegetables, canned	19.5	28.6	27.9	24.6	33.2
Coffee, cocoa, and tea	23.2	36.9	42.1	44.8	49.9
Wine and champagne <u>2/</u>	305.3	531.1	519.2	647.1	705.9
Spirits <u>2/</u>	3.8	7.7	8.9	18.0	6.9
Beer <u>2/</u>	134.6	88.8	78.3	77.9	78.2
Tobacco, smoking and cured	26.2	25.5	22.4	24.2	29.2
Hides and skins	15.7	20.0	22.0	24.3	20.1
Oilseeds	287.3	282.5	126.6	108.2	137.3
Cotton	93.2	107.7	92.5	123.6	93.5
Wool, scoured	11.4	19.4	23.0	21.2	23.3
Animal fats, refined and un- refined	13.8	5.9	2.5	10.4	3.2
Vegetable oils, raw and refined	77.8	109.7	121.5	148.8	136.3

1/ Millions, fresh equivalent.

2/ 1,000 hectoliters (1 hectoliter = 26.418 U.S. gallons).

Source: Statistisches Jahrbuch der Deutschen Demokratischen Republik, 1962, 1963, 1964.

has improved since 1961 and 1962, when it deteriorated sharply due to the effects of the completion of collectivization. This improvement is not spectacular, but levels of consumption per capita are about on a par with those of 1960. To maintain these levels, East Germany imports substantial quantities of foodstuffs, particularly grain, meat, oilseeds, vegetable oil, vegetables, fruit and other high value food and beverage items (table 13). Since much of this trade is with the Soviet Union, ups and downs in the production and availability of foodstuffs in that country are partially reflected in East Germany's trade.

East Germany's relatively poor position regarding agricultural exports is reflected in official export statistics. They indicate that no significant quantities of food products are exported, except sugar. In general, East Germany exports manufactured goods and imports raw materials and food.

CZECHOSLOVAKIA

Production

Agricultural production in Czechoslovakia declined for the third consecutive year (table 1), largely as a result of adverse weather conditions and inefficiency of the collectivized farm system. Although winter grains (wheat and rye) were in better condition in the spring of 1964 than a year earlier, yields were reduced by summer drought, and heavy rains during harvesting increased losses in the field. Czechoslovakian grain production averages about 5.1 million tons, but this level was not achieved in 1964 (table 14). Despite a small increase in rape acreage, oilseed production continued to decline. Root crops improved with late season rains. The potato crop is estimated to be better than a year earlier but sugar beet production is expected to be down. Vegetable production in 1964 was also better than that in 1963. The production of fruit increased substantially. Hay and forage crops were disappointing in 1964 largely because of the shortage of moisture during the spring and summer. Tobacco production continued to increase, with higher yields on a slightly larger area.

Cattle and hog numbers continued to fall during 1963, but as of January 1, 1964, were only slightly below the record levels of 1962 and 1961, respectively. Sheep numbers increased--minimally--for the first time in recent years, which may signal a stabilization of sheep numbers at a level approximately half of that of January 1, 1956. No substantial buildup of herds was indicated for 1964 because of poor feed supplies; the same factor is expected to restrict the output of livestock products during 1964/65 to the level of the preceding year.

Agricultural inputs

The slight downward trend in the total grain area since World War II and the migration of farm labor to cities have made additional production inputs imperative to maintain output. (The farm labor force reportedly declined by 14 percent during 1963/64.) Since the completion of collectivization and the more recent consolidation of small collectives into larger production units, increased farm mechanization and greater use of mineral fertilizer have become even more important means for increasing agricultural output. The number of tractors in agriculture more than doubled between 1958 and 1963, reducing the sown area per 15 hp. unit from 82 to 32 hectares (table 31). Fertilizer consumption increased 40 percent between 1957/58 and 1962/63--from 81 to 112 kilograms of plant nutrients per hectare of arable land. An application rate of 200 kilograms of plant nutrient per hectare is planned for 1970.

Table 14.--Czechoslovakia: Area and production of principal crops, output of animal products, and number of live-stock, average 1955-59, annual 1962-64

Item	1955-59 average		1962		1963		1964 1/	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons
Field crops:								
Wheat	729	1,507	673	1,644	720	1,766	770	1,740
Rye	504	974	441	916	426	880	406	750
Barley	664	1,345	694	1,752	692	1,620	690	1,325
Oats	523	941	448	905	409	797	380	665
Corn 2/	176	443	237	471	213	578	205	380
Potatoes	614	7,844	508	5,002	503	6,506	510	6,528
Sugar beets	228	5,881	260	5,811	264	8,018	250	6,900
Rapeseed	37	50	34	48	38	41	40	39
Tobacco	8	9	5	6	6	8	7	10
Livestock:								
Products:								
Red meat 3/	---	512	---	591	---	581	---	552
Poultry 3/	---	48	---	48	---	40	---	38
Milk, cows	---	3,699	---	3,554	---	3,429	---	3,550
Eggs	---	Million units 1,979	---	Million units 2,375	---	Million units 2,515	---	Million units 2,540
Number: 4/								
Cattle	---	1,000 head 4,111	---	1,000 head 4,518	---	1,000 head 4,507	---	1,000 head 4,480
Hogs	---	5,229	---	5,895	---	5,897	---	5,845
Sheep	---	936	---	603	---	524	---	527
Horses	---	520	---	292	---	254	---	227

1/ USDA preliminary estimates. 2/ Corn for grain. 3/ Carcass weight. 4/ January 1.

Source: Statistická Rocenka CSSR, 1964.

Policy

In November 1964, Czechoslovakia announced a sweeping reform of its economic system, which will affect every sector of the economy. Basic preparations are to be carried out during 1965 to incorporate the reforms in the 1966-70 plan.

In agriculture, major goals of the reform are to strengthen producer incentives and to effect shifts in output. It is planned to achieve these ends by adjustments in producer and consumer prices. Procurement prices have been raised for milk, cattle, wool, corn, beans, and paprika while those for pigs, poultry, and peas have been lowered. In addition, bonus prices were introduced to encourage greater off-farm sales of milk, grain, sugar beets, and chicory. These measures are supposed to increase farm income and stem the exodus of farm labor.

To prevent further decline of the arable area and to return some land to production, the state plans to continue providing funds for meadow improvement, construction of reservoirs, irrigation facilities, and other ameliorative measures. New policies on agricultural taxation are under consideration and are to be implemented in 1965, granting special tax rebates to economically weak collective farms.

Food situation

The 1964 food situation was somewhat better than during 1963. However Czechoslovakia, a traditional importer of agricultural commodities, continues to supplement domestic production with imports. In February 1964 a number of price increases were effected, ranging from 10 percent to as much as 40 percent on selected cuts of beef, veal, and pork. Prices of some imported items were also increased substantially. On the other hand, prices for eggs and a variety of vegetables were reduced. Additional price reductions were announced in December on lard, bacon, margarine, and wine. Some shortages of milk and other dairy products were noted during the first half of 1964, but this situation is expected to improve during the remainder of 1964/65.

Supplies of potatoes and fresh vegetables were exceptionally good in 1964 and the best in 10 years. Apples and pears were also plentiful due to an above-average crop.

Domestic food production during 1964/65 is not expected to reach the 1963/64 level, which was not a particularly good year. Greater meat imports may be expected as well as larger imports of grains.

Foreign trade

Czechoslovakia's foreign agricultural trade is characterized by large imports of wheat, feedgrains, and a variety of other agricultural commodities (table 15). In 1963, agricultural commodities accounted for 21 percent of the value of total imports. Between 1959 and 1963, grain imports averaged nearly 1.9 million tons annually; almost two-thirds was wheat. According to the Czechoslovakian press, grain imports in 1964/65 are expected to approximate 2.2 million tons as a result of the poor harvest in 1964. The Soviet Union occupies first place in Czechoslovakia's foreign trade, accounting for about 40 percent of the total trade. About 90 percent of wheat imports and 70 percent of the feedgrains come from the USSR. In addition to grain, Czechoslovakia imports large quantities of meat, poultry, butter, fruits, and vegetables

Table 15.--Czechoslovakia: Principal agricultural imports, average 1955-59,
annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Meat and meat products <u>1/</u>	86	106	89	98	104
Butter	12	14	17	15	20
Eggs <u>2/</u>	54	70	74	32	23
Wheat	946	1,486	1,127	927	1,365
Rice, milled	99	135	85	82	88
Coarse grains	686	976	566	685	637
Fruits	124	111	144	158	159
Vegetables	72	113	106	137	119
Hops <u>3/</u>	<u>4/</u> 250	731	235	<u>5/</u>	<u>5/</u>
Nuts	5	7	7	5	8
Coffee, cocoa beans, and tea ...	18	22	30	22	26
Wine <u>6/</u>	254	461	409	390	384
Tobacco	14	18	20	13	13
Oilseeds	126	109	122	121	100
Cotton	87	103	122	92	105
Jute	12	14	17	18	20

1/ Including animals for slaughter in slaughter weight equivalent.
2/ Millions, fresh equivalent. 3/ Metric tons. 4/ Less than 5 years. 5/ Not available. 6/ 1,000 hectoliters.

Source: Statistická Rocenka CSSR, 1964.

Table 16.--Czechoslovakia: Principal agricultural exports, average 1955-59,
annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Eggs <u>1/</u>	63	101	154	54	99
Coarse grains <u>2/</u>	219	257	249	221	254
Hops	3.3	3.8	4.3	3.7	5.4
Sugar, refined	263	293	662	528	513
Beer <u>3/</u>	<u>4/</u> 259	421	468	465	442

1/ Millions, fresh equivalent.
2/ Includes malt in terms of barley.
3/ 1,000 hectoliters.
4/ Less than 5 years.

Source: Statistická Rocenka CSSR, 1964.

from East European countries, with the USSR and Hungary supplying the greatest shares. Bulgaria is the major supplier of eggs and tobacco. Prior to 1960, Communist China was an important supplier of rice, meat, poultry, and tobacco, but trade with China has virtually been eliminated in recent years. The USSR and Great Britain supply most of the oilseeds and Burma is the major source of rice. Approximately half of Czechoslovakia's cotton imports come from the Soviet Union; the UAR is also an important supplier. Of the non-Communist countries, West Germany and Great Britain are the major Czech trade partners. In 1963 the United States accounted for only 0.5 percent of Czechoslovakia's total non-bloc trade.

Czechoslovakia continues to be a minor exporter of agricultural foodstuffs which accounted for 7 percent of the total exports in 1963 (table 16). Among the major agricultural exports are sugar, malt, hops, and eggs which are exported primarily to Western Europe.

HUNGARY

Production

Net agricultural output in 1964/65 almost regained the level of 1962/63 (table 1). Production declines in most spring crops, fruit, and beef were made up by increased outturns of breadgrains, sugar beets, and most other livestock products.

The best wheat harvest in 9 years (table 17), following the worst outturn since World War II, must be attributed largely to the most intensive agricultural production effort yet mustered by the present Hungarian government. Weather conditions for winter grain were below normal. Prodded by large wheat imports in 1963/64, the organization for and the execution of the 1964 wheat sowing plan was good. Premiums were paid to those completing planting on time. Fertilization was increased substantially. Crop care and harvest were above par for Hungary.

The intensive efforts to raise the output of wheat and industrial crops resulted in less attention to other spring crops. The production of feedgrains, potatoes, and fruits fell 10 to 15 percent. Vegetable output was down about one-third as a smaller area was irrigated. Sugar beet and hemp production increased in response to export possibilities. The area sown to corn, silage, crops, potatoes, vegetables, and sunflower seeds declined significantly. In many instances, yields were also below 1963. On the whole, weather conditions for spring crops were favorable. In some instances, however, the weather was detrimental. Below normal temperatures in May delayed corn planting and caused some frost damage to orchards and vineyards. Hail damage in some areas was above normal. High temperatures in early June caused early maturing of barley; yields were at a 12-year low. In addition, many crops were damaged by field mice in late summer.

Milk output, which has declined since 1960, increased. Egg production--almost entirely from household plots--was up substantially. While pork and poultry production was up, a smaller beef outturn prevented an increase in total meat production. Hog numbers in January 1965 were 11 percent over the previous year and cattle numbers were up 3 percent. Cow numbers increased slightly after a continuous decline between 1956 and 1964. With feed shortages, these gains may not be sustained.

Table 17.--Hungary: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average		1962		1963		1964 1/	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons
Field crops:								
Wheat	1,260	1,866	1,095	1,959	976	1,523	1,114	2,060
Rye	408	468	232	233	209	215	246	265
Barley	474	846	548	1,144	486	869	525	820
Oats	141	212	84	115	90	106	74	65
Corn	1,292	2,914	1,288	3,241	1,289	3,551	1,212	3,200
Potatoes	232	2,438	209	1,882	232	2,025	209	1,677
Sugar beets	109	2,163	125	2,654	118	3,434	133	3,560
Sunflower seed	114	129	124	132	121	126	108	120
Livestock:								
Products:								
Meat 2/	---	483	---	597	---	571	---	570
Milk, cows	---	1,751	---	1,805	---	1,793	---	1,885
		Million		Million		Million		Million
		units		units		units		units
Eggs	---	1,600	---	1,835	---	1,830	---	2,100
		1,000		1,000		1,000		1,000
		head		head		head		head
Number: 3/								
Cattle	---	2,042	---	1,987	---	1,906	---	1,883
Hogs	---	5,687	---	6,409	---	5,428	---	6,358
Sheep	---	1,973	---	2,850	---	3,043	---	3,305
Horses	---	720	---	374	---	339	---	323

1/ USDA preliminary estimates.

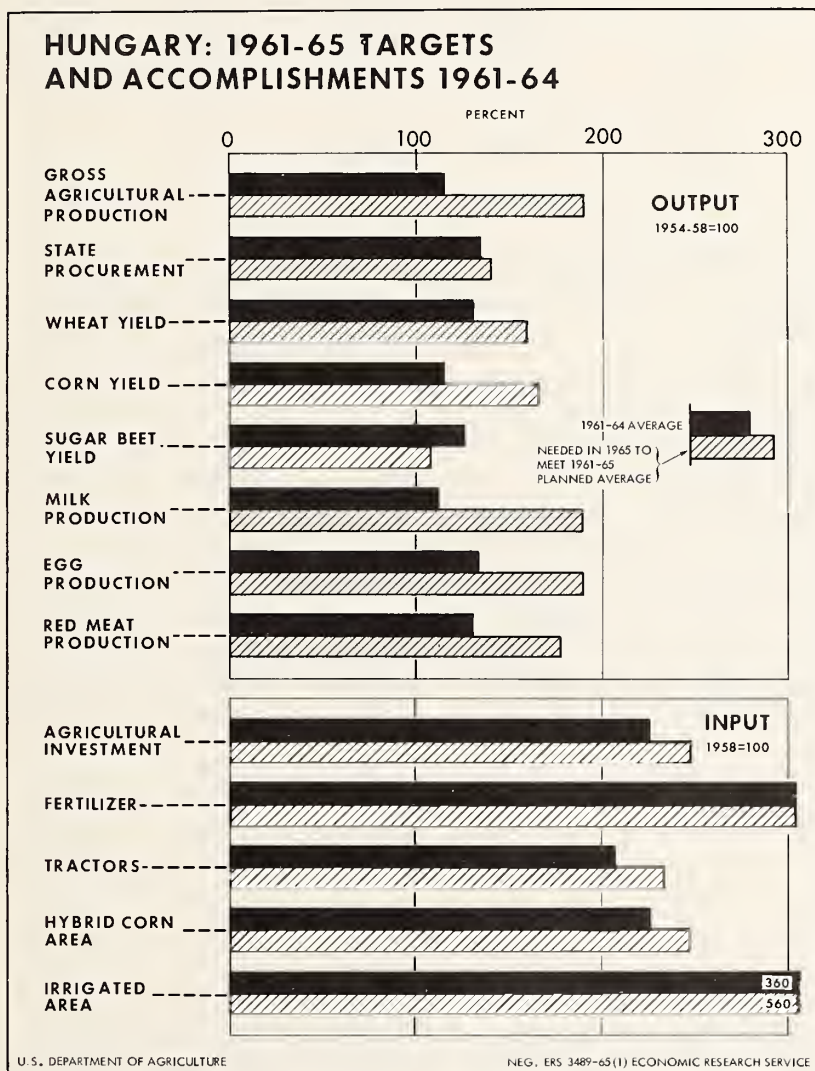
2/ Red meat and poultry, carcass weight including exports of live animals.

3/ March.

Sources: Mezőgazdasági Statisztikai Zsebkönyv, 1964, and Statisztikai Havi Közlemények, No. 7, 1964.

There was no general improvement in the 1964/65 Hungarian food situation over 1963/64, when the large wheat deficit was covered by imports. Milk and eggs were more abundant. But meat supplies remained tight despite imports of low grade frozen beef. Supplies of potatoes, fruits, and vegetables were more restricted than during the previous year.

Food prices in late 1964 were about 3 percent above the previous year and probably will remain so through the winter. In September 1964, prices of many staples in the Hungarian diet--such as potatoes, carrots, cabbage, and green peppers--were 20 to 50 percent higher than in September 1963.



Policy

Essentially no change in agricultural policy occurred in 1964. For the third successive year, government investments in agriculture were greater than planned. Above-plan expenditures were necessitated by collectivization and rural labor shortages, the reverse of the labor situation in other Danubian countries. These relatively large investments have resulted in production costs increasing at a faster rate than gross production value.

Government plans call for the virtual liquidation of Machine Tractor Stations by mid-1965, when only 63 will remain. In 1954, there were 364 Machine Tractor Stations. Although their numbers have steadily diminished since that time, the number of tractors on the MTS did not begin to decline until

Figure 2

Table 18.--Hungary: Principal agricultural imports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Meat	7.0	24.9	18.9	20.3	1/
Wheat and wheat flour	306.4	314.4	448.0	225.4	340.4
Rice, milled	23.2	17.6	21.1	17.4	18.8
Coarse grains	119.7	41.5	184.5	483.7	1/
Fruit, citrus	10.6	18.8	18.6	32.2	1/
Sugar, refined	2/46.2	27.7	80.8	109.0	1/
Coffee	2.9	3.3	3.3	5.5	1/
Cocoa beans	3.9	4.1	3.3	6.3	7.2
Tobacco	5.0	3.3	7.5	6.5	1/
Hides and skins	15.7	18.6	21.1	19.1	18.8
Cotton	46.5	62.3	68.0	65.1	63.6
Wool, clean	3.4	5.7	4.3	3.8	3.8
Jute	6.8	8.2	6.4	9.3	1/
Fats and lard	5.0	11.1	19.4	12.1	1/
Tallow	10.2	7.9	7.7	7.1	1/

1/ Not available. 2/ Both raw and refined in unspecified quantities.

Sources: Statiztikai Evkonyv, 1957, 1961, and 1962; Statistical Pocket Book of Hungary, 1964. (For tables 18 and 19).

Table 19.--Hungary: Principal agricultural exports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Cattle, for slaughter 1/	70.9	123.4	92.4	97.2	143.9
Pigs, for slaughter 1/	156.1	104.9	77.8	155.2	145.9
Meat	16.6	22.9	21.7	40.7	2/
Poultry, for slaughter	14.2	15.2	20.7	26.4	27.2
Eggs, fresh 3/	153.2	117.5	135.1	60.0	90.7
Butter	4.9	5.7	4.0	4.7	5.4
Cheese	3.7	5.9	7.7	7.5	2/
Wheat and wheat flour	119.4	68.1	120.2	47.8	57.5
Corn	67.8	37.6	53.5	34.2	25.5
Fruit, fresh	77.9	55.8	146.7	113.0	2/
Beans	18.5	10.3	2.7	4.7	2/
Peas	10.8	28.1	27.3	31.4	2/
Onions	18.3	24.6	10.4	23.4	2/
Potatoes	32.8	65.5	69.8	24.3	2/
Vegetables, fresh	4/32.9	92.1	71.7	98.6	2/
Sugar, refined	5/47.2	135.4	177.0	214.8	2/
Wine 6/	317.8	508.5	410.8	335.2	401.8
Vegetable oils	21.0	20.6	14.5	22.8	28.9
Fats and lard	7.5	6.6	10.5	9.4	2/

1/ 1,000 head. 2/ Not available. 3/ Millions. 4/ 1958-59 average. 5/ Both raw and refined in unspecified quantities. 6/ Thousand hectoliters.

1961. Some Machine Tractor Stations are being converted to Repair Stations to service machinery owned by collectives.

The current 5-year plan will terminate in 1965. However, the agricultural output goals of this plan were abandoned in late 1963. Figure 2 illustrates why they were dropped. The major input targets are well within reach by 1965; the original irrigation plan was fulfilled early and a new target set. The only other major targets which will be met are those of state procurements and 1961-65 average sugar beet yields. This does not mean that progress was not made. Increases in production of eggs and red meat were noteworthy as were increased wheat yields. Declines in the bread grain area, however, prevented attainment of the goal of self-sufficiency in wheat. The most striking failure was in raising potato yields. With population increasing at only 1 percent per year, the relatively small increase in gross agricultural production was less unsatisfactory than similar experiences of other Danubian countries. But, to meet the plan, gross output in 1965 would have to exceed 1964 by 60 percent. Here again, communist agricultural output plans have proved to be only exhortations and not meaningful economic projections.

RUMANIA

Production

Gains in most spring crops and livestock products pushed agricultural production up about 4 percent for the second successive year in Rumania (table 1). Thus, the 1959/60-1961/62 plateau was regained.

With low soil moisture at planting time and sporadic snow cover during the winter, a decline in wheat yields was inevitable. Without above-average precipitation in May and June, yields would have dropped even more. Favorable weather and a 6 percent increase in area resulted in a near-record corn crop (table 20). But the moisture content of corn was high in many areas. Production of grains other than wheat and corn fell sharply as both area and yield declined, but they constitute only 6 percent of the grain area. Industrial crop output in 1964 improved over 1963. Record yields and a larger area contributed to a 50 percent increase in the sugar beet crop which approached the record levels of 1959-60. Tobacco production also improved substantially. The potato and sunflower seed harvests were about the same as in 1963, but vegetable production was up. Fruit output may have fallen because of weather.

An improvement in feed supplies should result in increased output of livestock products in 1964/65. Two good corn crops in succession make the outlook for increased pork production especially good.

Policy

There were no visible shifts in agricultural policy in 1964/65. The drive begun in 1960 to consolidate collective farms tapered off in 1964. Between January 1961 and January 1964, average farm size nearly doubled as the number of collectives decreased. By mid-1964, collective farms averaged 1,900 hectares compared to the official "optimum" size of 1,500 to 2,000 hectares. About half the cattle and hogs were in the socialized sector as of January 1965, a level which has been maintained since January 1963 (table 32). However, several factors have impeded further collectivization of livestock. Among these are traditional communist

Table 20.--Rumania: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average		1962		1963		1964 1/	
	Area	Production	Area	Production	Area	Production	Area	Production
	: 1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
	:hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons
Field crops:								
Wheat	2,954	3,212	3,043	4,054	2,874	3,791	2,960	3,800
Rye	158	151	77	75	80	78	70	70
Barley	315	381	251	419	222	350	215	300
Oats	338	327	173	167	131	130	110	100
Corn	3,551	5,097	3,107	4,932	3,371	5,964	3,565	6,500
Potatoes	265	2,803	299	2,597	318	2,683	304	2,680
Sugar beets	152	2,148	155	2,180	178	2,348	189	3,500
Sunflower seed	348	314	428	450	465	505	467	505
Livestock:								
Products:								
Milk, cows	---	1,908	---	2,580	---	2,500	---	2,570
		1,000		1,000		1,000		1,000
		head		head		head		head
Number: 2/								
Cattle	---	4,579	---	4,707	---	4,566	---	4,637
Hogs	---	4,095	---	4,665	---	4,518	---	4,658
Sheep	---	10,908	---	12,285	---	12,168	---	12,400
Horses	---	1,200	--	1,013	---	780	---	709

1/ USDA preliminary estimates.
2/ January.

Source: Anuarul Statistic R.P.R. 1964.

agricultural priorities, such as adequate supplies of relatively cheap bread and a price system favoring crop production. In addition, the 1963 livestock price increase (see the 1964 issue of this publication) apparently was the first in years which did not grossly discriminate against private producers, thus providing additional incentive to maintain private herds.

With only a year before the termination of the 1960-65 plan, the only major agricultural targets that will be attained are the completion of land collectivization and state investments in agriculture. The fact that collectivization was accomplished more rapidly than planned led to overfulfillment of the agricultural investment plan. Production targets for the major crops will fall considerably short, as will gross production (figure 3). The planned level of sheep numbers may be achieved, but those of cattle and hogs will not. Consequently, meat production will also fall considerably short of plans. The insurmountable gap between 1964 production and 1965 goals can only to a limited extent be attributed to shortfalls in the fertilizer

and irrigation plans. Rather, the gap illustrates that agricultural output goals in communist practice are more exhortatory than prognostic.

Foreign trade

Both agricultural imports and exports increased about 17 percent in 1963 (tables 21 and 22). If the 395,200 ton wheat loan to the USSR--reportedly repaid in kind in 1964--is excluded, however, agricultural export earnings remained near the 1961 and 1962 levels. ^{5/} Agricultural commodities accounted for 10 percent of total imports and 20 percent of total exports in 1963 (table 31).

Agricultural imports were almost 60 percent as large as agricultural exports in 1963 compared to about 50 percent during

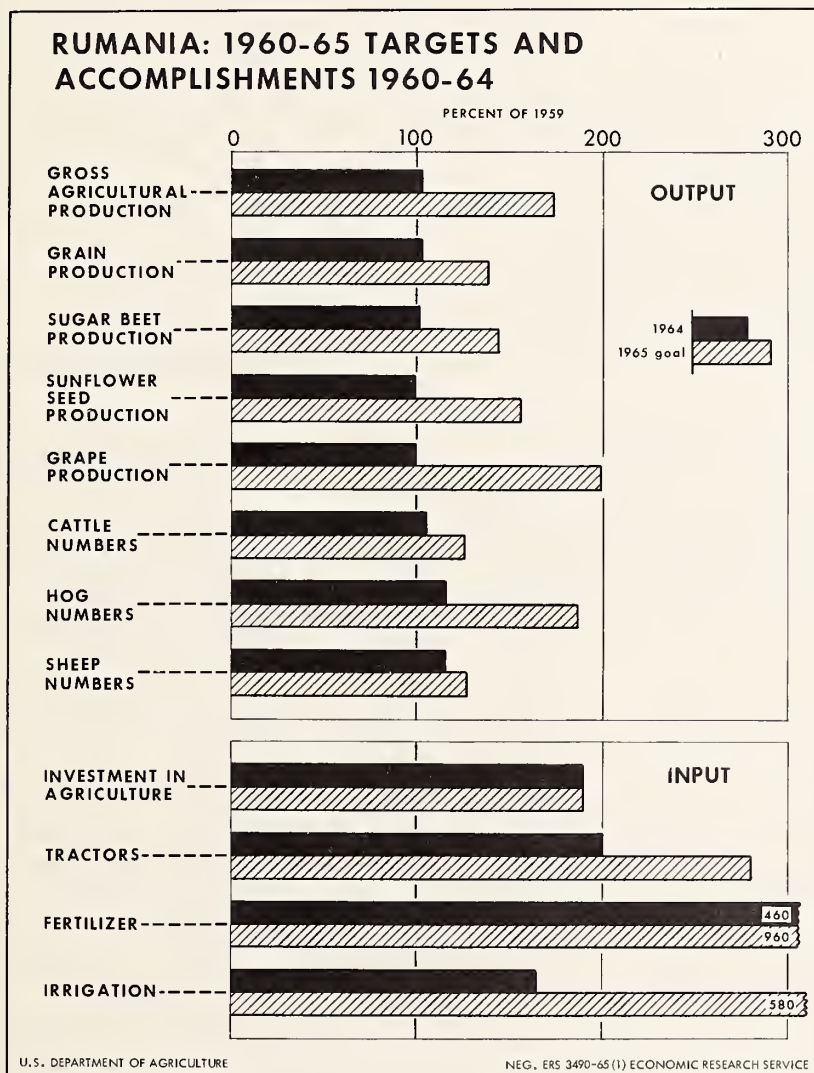


Figure 3

^{5/} References to 1963 exports and 1964 imports exclude consideration of the wheat loan.

Table 21.--Rumania: Principal agricultural imports, annually 1959-63

Commodity	1959	1960	1961	1962	1963
<hr/>					
	<hr/>				
	- - - - - 1,000 metric tons - - - - -				
Grain, excluding rice ^{1/}	7.0	101.6	1.2	0	0
Rice, milled	20.9	13.5	15.8	23.1	43.1
Fruit, citrus.....	7.6	15.5	18.3	21.1	19.6
Olives.....	5.4	5.1	7.0	6.1	8.1
Sugar.....	28.7	^{2/}	30.4	37.0	44.9
Cocoa beans.....	.8	2.8	2.1	2.5	3.8
Hides and skins.....	8.7	5.2	5.3	13.6	6.5
Rubber, crude	6.3	9.3	11.5	13.8	19.2
Cotton.....	42.2	50.7	60.8	60.8	65.4
Wool.....	2.5	2.4	2.9	.3	.3
Edible vegetable oil.....	22.7	2.8	2.6	1.5	.8

^{1/} Based on exporting country data.^{2/} Less than 100 tons.Source: Anuarul Statistic Al R.P.R. 1964.

Table 22.--Rumania: Principal agricultural exports, annually 1959-63

Commodity	1959	1960	1961	1962	1963
<hr/>					
	<hr/>				
	- - - - - 1,000 metric tons - - - - -				
Eggs ^{1/}	67.9	121.4	107.7	131.6	81.2
Grain, total (excluding seed).....	222.8	731.0	1,208.4	1,067.9	1,408.8
Fruit, fresh.....	41.6	19.6	47.0	42.8	69.0
Fruit, canned.....	55.9	65.8	85.2	75.9	107.6
Grapes.....	31.6	36.8	24.5	54.9	52.0
Vegetables, fresh.....	17.8	25.3	43.5	71.1	82.1
Vegetables, canned.....	4.1	6.3	11.7	15.4	20.7
Potatoes.....	9.2	27.4	93.0	20.9	38.1
Sugar.....	0	76.7	147.4	310.8	75.6
Wine.....	24.0	42.6	31.3	20.7	26.8
Wool.....	1.4	1.1	1.0	.9	1.0
Edible animal fats.....	4.6	12.7	9.6	8.8	7.9
Edible vegetable oil.....	2.4	32.0	33.7	47.6	39.7
Castor oil.....	6.8	4.8	6.1	7.9	1.4

^{1/} Millions.Source: Anuarul Statistic Al R.P.R. 1964.

the previous 3 years. Cotton, rubber, rice, and sugar accounted for about 70 percent of agricultural imports in 1963 and about two-thirds of the 17 percent increase over the previous year. Current information indicates that 1964 agricultural imports decreased slightly.

Increased agricultural exports in 1963 appear to have resulted almost entirely from the wheat loan and higher unit prices. Increases over the previous year were registered for fruits and vegetables (table 22), but substantial declines occurred in fats and oils, eggs, and sugar. Total grain exports remained near the 1962 level; still, corn exports to Western Europe and Japan increased to 780,000 tons, as larger shipments to Austria, Italy, France, Japan, and Switzerland more than offset smaller sales to West Germany and the United Kingdom. Incomplete data indicate a leveling off of fruit and vegetable exports in 1964 and a further decrease in sugar exports. Corn exports to Western Europe and Japan appeared about the same as in 1963.

BULGARIA

Production

Fall sown grains suffered from drought which began in the summer of 1963 and continued almost unabated through the fall and winter of 1963/64. Insect infestation further reduced wheat yields in 1964. Summer drought in 1964 and the cumulative effect of moisture deficiencies kept corn yields below planned levels (table 23). September rains were too late to help the corn crops, and inflicted heavy damage on the important grape harvest.

Tobacco yields were good on a larger planted area. Yields of sunflower seed were also up, and sugar beet output improved over the poor 1963 crop. Details about the fruit and vegetable crops are lacking.

Feed supplies, a perennial problem second only to breadgrains in importance, continued to lag behind requirements, hampering development of livestock farming. The program initiated in February 1963 to encourage livestock raising on private plots was continually frustrated. Efforts to improve the feed situation by doubling the area of feed peas were thwarted by seed shortages. The disappointing corn crop undoubtedly accounted for much of the press exhortation to use all possible sources of animal feed for ensilage. Despite the tight feed situation, reports do not suggest distress slaughtering.

Food situation

The food situation, which was very difficult in the winter of 1963/64, has improved slightly. At that time, Bulgaria turned to Canada for wheat, concluding a 3-year agreement for annual imports of 100,000 metric tons, with an additional 50,000 metric tons the first year. These amounts were insufficient to meet the grain deficit but other supplies apparently were obtained. This is inferred from the lifting in March 1964 of the requirement to include 10 percent corn meal in flour used for bread. Then in May 1964, state bakeries were permitted to bake standard white bread without admixture of barley flour. To date, the adulteration requirements have not been reimposed, although the ban on feeding bread to livestock continues in force.

Policy

The past year saw no major policy changes in Bulgarian agriculture, unless retrenchment towards realism in the plan for 1964 could be so described. Despite modification, the plan was

Table 23.--Bulgaria: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average			1962			1963			1964 ^{1/}		
	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production	Area	Production
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	hectares	metric tons
Field crops:	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons
Wheat	1,402	2,156	1,244	2,081	1,240	1,886	1,270	2,030	1,270	2,030	1,270	2,030
Rye	129	129	59	49	60	48	60	50	60	50	60	50
Barley	265	459	303	599	300	540	310	620	310	620	310	620
Oats	164	176	152	114	150	145	145	154	145	154	145	154
Corn	745	1,283	651	1,556	655	1,802	675	1,858	675	1,858	675	1,858
Potatoes	32	312	43	361	43	401	43	400	43	400	43	400
Sugar beets	59	1,061	72	1,121	72	1,120	76	1,850	76	1,850	76	1,850
Sunflower seed	204	231	272	357	254	333	238	333	238	333	238	333
Tobacco	100	78	120	107	145	105	147	128	147	128	147	128
Livestock:												
Products:												
Red meat ^{2/}	---	159	---	243	---	226	---	225	---	225	---	225
Poultry ^{3/}	---	28	---	40	---	40	---	40	---	40	---	40
Milk, all	---	894	---	1,126	---	1,143	---	1,227	---	1,227	---	1,227
Eggs	---	Million units 877	---	Million units 1,316	---	Million units 1,263	---	Million units 1,280	---	Million units 1,280	---	Million units 1,280
Numbers ^{4/}												
Cattle	---	1,000 head	---	1,000 head	---	1,000 head	---	1,000 head	---	1,000 head	---	1,000 head
Hogs	---	1,507	---	1,582	---	1,582	---	1,563	---	1,563	---	1,563
Sheep	---	1,648	---	2,331	---	2,066	---	2,100	---	2,100	---	2,100
Horses	---	7,918	---	10,161	---	10,107	---	10,050	---	10,050	---	10,050
	---	443	---	301	---	277	---	265	---	265	---	265

^{1/} USDA preliminary estimates. ^{2/} USDA estimates; carcass weight. ^{3/} Dressed weight. ^{4/} January 1.

Source: Statisticheski godishnik narodna republika Bulgariya 1963.

only partially fulfilled. Patchwork attempts to stimulate production in various sectors and overcome the inertia of overadministration and underpayment in agriculture have continued. Premium payments were introduced for overfulfillment of plan in the production and delivery of sugar beets, flax, and hemp. Recognition of the chronic problems of under-production is evidenced indirectly in the continued program to develop livestock raising on private plots and the arrangements offered by Rodopa, a small foreign trading organization operating outside the foreign trade plan, to encourage livestock raising by offering premium prices on livestock as well as discount prices on livestock feed.

In recent years, agricultural plans have outlined large scale increases in irrigated acreage. The 1964 plan fixed the total irrigated area at 951,000 hectares, an increase of only 8 percent from 1963. The area of corn under irrigation was actually cut back. This slowdown recognized that repair of drainage ditches was not keeping pace with construction of new irrigation systems. The plan apparently was not fulfilled.

Planning emphasis was turned in 1964 from irrigation to fertilization. The plan set a goal of applying an average of 58 kilograms of plant nutrients per hectare of arable land, an increase of 38 percent above the 1963 plan. This goal was not met but the increase for the year was approximately 15 percent.

Discussion in the press indicated that, as in other communist countries, experiments are being tried in a few areas to make limited use of the profit motive, and to devise planning methods more responsive to local conditions and changing requirements. Implementation of these attempts on a national scale will undoubtedly follow, rather than precede, similar efforts in other communist countries, particularly the Soviet Union. Bulgaria did take the lead, however, in the introduction of a guaranteed minimum wage in agriculture.

Legislation for a guaranteed minimum wage to Bulgarian farmers was enacted in July 1962. The system went into effect in 1963. A national wage fund was established to which collective farms as well as the government contribute. Collective farms contribute 2 percent of their income for distribution to members. Farms unable to pay each working member a minimum wage every month can draw upon the national wage fund. The minimum wage has usually been described as 1.8 leva per day. This amount, however, varies from 1.5 to 2.6 leva, depending on the category of work. In addition to this minimum, collective farms also pay members in proportion to annual receipts of the farm. The program was intended to improve the income distribution among farms and to shift, in part, the risks inherent in agriculture from members of collective farms to the rest of society.

No report has attempted to determine the effect of the system on productivity of agricultural labor. The efficiency of the system will depend largely on the standardization of agricultural labor norms. A national organization that includes collective farms has been set up to work on this problem. Reports in 1964 indicated that little progress had been made and that imposition of this additional bureaucratic layer only compounded the administrative muddle at the farm level, and has not solved these problems. Furthermore, various attempts have been made by some collective farms to take undue advantage of the guaranteed wage fund.

The only new policy change by the Bulgarian government in 1964 affected only one okrug, or region. By decree, collective farms (33 in 1961) in the mountainous okrug of Smolyan were abolished and the collective farmers were attached to state forestry enterprises in the vicinity.

Table 24.--Bulgaria: Principal agricultural imports, average 1955-59, annual 1960-62

Commodity	1955-59 average	1960	1961	1962
1,000 metric tons				
Wheat	81.1	136.3	7.6	119.9
Rice, milled	4.1	13.0	12.4	13.0
Sugar	5.6	34.0	99.0	124.1
Rubber, crude	4.4	6.1	6.1	7.8
Cotton, lint	16.5	30.1	30.3	47.5
Wool, scoured	1.7	2.1	1.3	1.1
Hides and skins	1.6	2.1	2.5	2.5

Source: Vunshna turgoviya na narodna republika Bulgariya: Statisticheski sbornik 1955-1961, and 1956-62.

Table 25.--Bulgaria: Principal agricultural exports, average 1955-59, annual 1960-62

Commodity	1955-59 average	1960	1961	1962
1,000 metric tons				
Pigs for slaughter <u>1</u> /.....	59.0	95.8	137.2	138.6
Pork	15.6	14.1	13.1	10.0
Poultry meat	2.5	5.2	7.2	6.8
Cheese	2.9	8.8	10.7	10.5
Eggs <u>2</u> /	250.6	436.5	534.0	442.2
Corn	54.4	137.0	104.3	82.7
Fruits, fresh	91.4	132.2	197.7	260.6
Fruits, other	45.5	75.5	108.0	95.8
Vegetables, fresh	104.6	306.8	315.3	291.9
Vegetables, other	65.8	101.3	165.3	138.6
Wine	17.7	34.2	39.7	37.5
Tobacco, oriental	42.2	69.4	61.3	52.6
Sunflower seed	17.6	81.9	43.5	92.5

1/ Thousands.

2/ Millions.

Source: Vunshna turgoviya na narodna republika Bulgariya: Statisticheski sbornik 1955-1961, and 1956-62.

The labor needs of the forestry enterprises were thus met and subsidies to these submarginal farms were eliminated.

Foreign trade

Data on foreign trade since calendar 1962 are very sketchy. Exports of raw Oriental tobacco in 1963 increased to 78,000 tons and can be expected to increase further (table 25). Exports of fresh grapes also hit a record in excess of 200,000 tons. Tomato exports declined to 206,000 tons, but exports of canned vegetables were nearly as high as the 1962 maximum.

Wheat and barley imports in 1963 approximated 250,000 tons, an amount which may have been reached or exceeded in 1964. Furthermore, it is likely that in 1963 and 1964 there were net imports of corn. The announcement in late 1964 of a plan to set up 3 large-scale modern poultry enterprises may necessitate continuing net imports of feedgrains. This plan is accompanied by a similar plan for the development of 3 enterprises to produce mixed feed.

Imports of tractors, combines, and other agricultural machinery from the Soviet Union continued at a high level in 1963. Also, the imported value of spare parts increased in 1963. Imports of mineral fertilizers were at a maximum in 1959, principally because of unusual imports from West Germany. Subsequent years showed smaller imports of phosphates and potash, but net exports of nitrogenous fertilizers. Increased domestic consumption of fertilizer in 1963 suggested a reversal in the 1960-62 trend in fertilizer trade.

YUGOSLAVIA

Production

Agricultural output showed a slight gain in 1964/65 over the previous year (table 1). In addition, a substantial buildup in livestock herds--not reflected in the net output index--occurred. Winter wheat was affected by unfavorable weather, but the weather was generally favorable for spring crops, hay, and pasture.

The availability of more fertilizer and hybrid seed, a slight increase in area, and, most important, no summer drought--all contributed to a corn crop rivaled only by the 1959 outturn. But difficulties in harvesting the large crop during a rainy fall resulted in unusual losses and high moisture content. The good corn harvest, together with above-average pasture conditions and forage production, were the most favorable aspects of the 1964/65 situation. They alleviated the feed shortages of the 3 preceding years which led to serious livestock problems. A buildup of depleted livestock herds, especially hogs, is expected in 1964/65.

The 1964 wheat crop was about average but 6 percent smaller than in 1963 (table 26). Quality fell sharply, however, because of unfavorable weather. Consequently, above-average use of wheat for feed is likely. Planted during a drought, wintered without sufficient snow cover in many areas, and hit by abnormally high temperatures during the crucial milk-wax stage, the wheat crop probably would have been a failure under the cultural and technical practices in use a decade earlier.

A significantly greater decline in wheat yields occurred on socialized farms, but their yields average 40 to 50 percent higher than on private farms. The economic impact will be

Table 26.--Yugoslavia: Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64

Item	1955-59 average		1962		1963		1964 1/	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons
Field crops:								
Wheat	1,922	2,742	2,130	3,265	2,140	3,950	2,100	3,700
Rye	254	251	177	169	157	156	150	150
Barley	373	476	351	475	350	524	350	560
Oats	356	350	310	305	315	345	320	350
Corn	2,520	4,710	2,460	5,270	2,410	5,380	2,430	6,500
Potatoes	276	2,630	302	2,630	321	3,020	320	2,800
Sugar beets	75	1,688	75	1,870	96	2,670	89	2,800
Sunflower seed	84	90	97	1,135	140	1,190	146	225
Livestock:								
Products:								
Meat 2/	---	471	---	622	---	602	---	620
Milk, cows	---	2,040	---	2,218	---	2,168	---	2,150
		Million units		Million units		Million units		Million units
Eggs	---	1,457	---	1,420	---	1,643	---	1,700
		1,000 head		1,000 head		1,000 head		1,000 head
Number: 3/								
Cattle	---	5,068	---	5,884	---	5,355	---	5,106
Hogs	---	4,605	---	5,161	---	5,013	---	6,106
Sheep	---	11,167	---	11,143	---	10,055	---	9,726
Horses	---	1,283	---	1,226	---	1,175	---	1,143

1/ USDA preliminary estimates.

2/ Red meat and poultry, carcass weight.

3/ January 15.

Source: Statisticki Godisnjak S.F.R.J., 1964.

heaviest on socialized farms, because many are heavily in debt from purchases of land and other assets.

Fruit production in 1964 was estimated slightly below 1963. Cool and rainy spring weather prevented pollination of some tree fruits. Apple production, the most severely affected, fell 45 percent. The plum harvest, about the same as in 1963, was below average. Output of industrial crops increased over the previous year as area, yields, or both set records. Sugar beet production remained about the same as in 1963, with a record yield offsetting the 8 percent drop in area.

Wheat production prospects in 1965 are poor. The area sown to wheat in the fall of 1964 was about 20 percent below the previous year. Two-thirds of the reduction in sown area occurred in Vojvodina and Croatia where yields generally are 15 to 20 percent above the national average. Above normal fall rains delayed winter wheat sowing. In addition, the unfavorable wheat/corn price ratio was a disincentive to maintenance or expansion of the wheat area.

Food situation

Following gradual improvement in the diet since the mid-1950's, Yugoslav consumers began to experience difficulties in 1962. The food situation has not improved to date. Serious food deficits did not occur, nor do they seem likely, but quality deterioration and high prices will continue through 1964/65. Flour, sugar, vegetable oil, and milk retail prices jumped 20 to 30 percent following the July 1964 increases in guaranteed producer prices. In addition, retail meat prices rose for the 19th consecutive month in July 1964. They were about 50 percent higher than the 1963 average by September 1964, when the government raised livestock purchase prices to promote exports.

Price increases and scarcities dictated changes in food consumption in 1964/65. Higher prices for items such as flour, sugar, vegetable oil, and milk did not result from scarcity. But those of meat did. Meat consumption fell while bean, egg, and grain intake rose. However, wheat consumption declined in rural areas and possibly in the entire country for the first time in 8 years. Conversely, average per capita corn consumption, estimated 50 percent above 1963/64, apparently was the highest since 1958/59. Corn consumption increased predominately in rural areas as farmers cut costs by eating from their own larders.

Policy

Neither the direction nor emphasis of agricultural policy has changed since 1960. At that time, efforts were intensified to promote socialist relations in the countryside and, under the sponsorship of the government, producer prices began to spiral upward. Arable area in the socialized sector increased about 30 percent between 1960 and 1964 through land purchases, but the share of arable land in the socialized sector increased from only 11 to 14 percent. Cooperation also increased between private farmers and various organizations which act as input suppliers and marketing agencies. The share of grain planted under the cooperative scheme rose from 11 to 30 percent of privately sown grain. Cooperation in livestock production in 1964 included about 15 percent of private holdings, compared to 8 percent in 1960. The income redistribution scheme has been even more successfully carried out. The annual rate of increase in producer prices accelerated from about 9 percent between 1952 and 1959 to more than 14 percent during 1960-64. Despite generally successful implementation of agricultural policy, aggregate production continued to fall short of goals. Indeed, agricultural output has tended to stagnate since 1959/60, except for variations attributable to climatic conditions.

In his speech to the Eighth Communist Congress on December 8, 1964, President Tito characterized Yugoslav agriculture as still unable to supply growing domestic and export needs. Even so, he proposed no shifts in agricultural policy. On general economic matters, however, Tito did stress the need for decentralization of investment. Although the outcome is in doubt, meaningful investment decentralization would have a serious impact on agriculture, especially the socialized sector. Agricultural investment is financed primarily from central funds, as regional governments favor industrial investment. Coming on the heels of the reduction of the subsidy on farm inputs, and the abolition, on July 1, 1965, of the 3 percent premium paid socialist farms for wheat and rye, investment decentralization would further impede advances in the socialization of agriculture.

Foreign trade

Increased wheat and agricultural raw materials requirements pushed agricultural imports to a record \$328 million in 1963, a level 34 percent above the preceding year (table 27). The U.S. share of Yugoslavia's agricultural imports again exceeded 40 percent in 1963. The next largest suppliers, Australia and India, each accounted for 5 percent. Dollar purchases from the United States increased five-fold over 1962, amounting to \$17 million. Dollar credit sales (Title IV) remained near the 1962 level of \$16 million. Other P.L. 480 sales (mostly Title I) made up the remaining \$88 million of U.S. agricultural exports to Yugoslavia.

Wheat imports in 1963 nearly doubled the 1962 level, with the United States supplying 85 percent. Led by cotton, imports of agricultural raw materials rose. The United States remained the chief cotton supplier, although takings of U.S. cotton fell slightly in 1963. The unusually large imports of low grade Indian flue-cured tobacco in 1962 and 1963 enabled Yugoslavia to maintain exports of Oriental tobacco. Coffee and cocoa imports increased in 1963, but citrus fruit takings were less than in 1962. The sharp increase in tropical imports over the 1955-59 average evidences a somewhat liberalized policy. Even so, the potential market for tropical products is much greater and awaits only further liberalization. Imports of sugar declined in 1963.

Agricultural imports remained high in 1964, though down somewhat from the record 1963 level. This largely resulted from the drop in wheat imports back to the 1962 level. But the decline in the sown area in the fall of 1964 would indicate a substantial increase in wheat imports in late 1965 or early 1966. Tobacco imports also fell sharply in 1964. Conversely, incomplete data point to larger imports of cotton, sugar, coarse grains, coffee, tallow, and pigs.

The value of agricultural exports climbed to a record \$245 million in 1963. Over half the gain in total gross exports above 1962 came from the 30 percent rise in agricultural commodity shipments. The increase largely resulted from higher unit prices, as the volume of most agricultural exports remained near the plateau which has existed since 1960 or 1961 (table 8). Notable exceptions were prune shipments, which more than doubled, and smaller egg and wine exports. Prune exports to the USSR rose 18,328 tons over 1962. Sales to Czechoslovakia and East Germany also increased. Larger exports of quality wine did not compensate in terms of value or quantity for smaller common and industrial wine exports.

Tobacco, pork, and slaughter pig exports in 1964 were indicated above 1963, with beef and veal about the same. Most other farm exports apparently declined. Increased meat shipments to the USSR were reported in 1964. Expanded meat and slaughter animal exports are probable in 1965.

Table 27.--Yugoslavia: Principal agricultural imports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Pigs for slaughter	3.0	12.0	16.2	22.5	9.0
Milk, powdered	18.1	16.9	20.9	18.1	23.1
Cheese	5.6	0	1/	0	1/
Eggs .....	.1	2.0	2.4	3.6	3.9
Wheat and wheat flour	1,077.9	158.1	819.3	781.1	1,438.8
Rice, paddy	29.1	43.3	13.6	4.1	38.9
Coarse grain	17.8	3.8	1.1	74.2	101.6
Fruit, citrus	16.2	40.1	45.8	39.8	39.4
Potatoes	10.1	10.2	1.0	22.8	7.7
Sugar, refined	81.5	122.7	107.3	131.4	54.6
Coffee beans	4.0	9.2	9.6	10.3	17.8
Cocoa beans	2.5	3.5	6.6	3.6	9.6
Tobacco .....	.6	1/	.4	9.9	10.1
Hides and skins	17.2	26.3	25.0	27.3	29.0
Oilseeds	21.2	12.0	9.4	12.3	23.5
Rubber, crude	7.4	12.1	14.4	13.9	15.1
Cotton	41.2	42.9	56.0	56.0	66.9
Jute	5.1	5.9	6.9	11.1	15.0
Wool	4.9	6.4	12.1	6.4	11.5
Edible vegetable oils	28.4	32.1	38.4	41.4	30.4
Lard	26.4	0	1.7	2.2	7.4
Tallow	10.9	6.2	9.9	15.2	11.8

1/ Less than 50 tons.

Source: Statistika Spoljne Trgovine S.F.R. Jugoslavije, annual issues 1955 through 1963.

Table 28.--Yugoslavia: Principal agricultural exports, average 1955-59, annual 1960-63

Commodity	1955-59 average	1960	1961	1962	1963
1,000 metric tons					
Cattle for slaughter	33.2	36.5	55.6	37.0	44.5
Sheep for slaughter	7.0	9.3	15.8	8.7	7.2
Hogs for slaughter	4.7	4.5	1.1	1.1	.1
Horses for slaughter	7.2	11.3	27.4	29.1	27.7
Red meat, fresh	19.5	36.7	51.2	88.4	89.4
Red meat, canned	10.1	21.1	23.4	21.0	23.7
Cheese	1.5	.6	.6	8.8	.5
Eggs, fresh equivalent	13.1	18.4	13.2	8.1	6.6
Corn	198.1	513.5	376.3	27.8	104.0
Other coarse grains	43.7	5.5	5.1	19.4	5.3
Fruit, fresh	36.9	22.3	15.8	61.7	33.2
Prunes	16.9	19.6	15.2	14.6	33.0
Fruit pulp	22.1	15.4	13.4	16.2	16.0
Potatoes	10.5	1.0	14.9	.2	.7
Beans, dry	6.3	3.4	10.3	.8	.3
Hops	2.6	4.7	5.5	3.9	4.7
Sugar, refined	14.8	85.5	24.6	21.2	25.0
Wine 1/	542.0	543.1	395.3	513.5	453.2
Tobacco	18.0	18.0	15.9	15.3	16.8
Oilseeds	2.2	12.4	4.5	1.7	3.8
Hemp, all	11.1	15.5	13.4	10.3	13.5

1/ 1,000 hectoliters (1 hectoliter = 26.418 U.S. gallons).

Source: Statistika Spoljne Trgovine S.F.R. Jugoslavije, annual issues 1955 through 1963.

Table 29.--Eastern Europe (including USSR): Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64 ^{1/}

Item	1955-59 average		1962		1963		1964 ^{2/}	
	Area	Production	Area	Production	Area	Production	Area	Production
	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons	1,000 hectares	1,000 metric tons
Field crops:								
Wheat	74,365	66,957	77,401	71,379	74,518	57,186	75,284	72,598
Rye	25,749	26,601	23,397	23,466	21,135	21,775	23,169	22,616
Barley	13,217	15,147	19,384	22,472	23,722	22,889	23,760	26,493
Oats	18,264	17,519	10,023	10,936	8,792	8,811	8,618	8,230
Corn	13,115	22,049	14,753	25,292	14,950	27,103	14,601	30,171
Potatoes	14,385	39,042	13,713	124,380	13,504	138,858	13,671	148,150
Sugar beets (factory)	3,433	65,743	4,519	75,184	5,082	78,119	5,644	113,861
Sunflower seed	4,751	4,128	5,311	5,474	5,370	5,154	5,549	5,783
Rape seed	306	337	403	583	365	409	402	406
Tobacco	356	326	365	330	419	414	448	499
Cotton	2,233	1,478	2,455	1,482	2,546	1,783	2,561	1,797
Livestock:								
Products:								
Red meat ^{3/}	---	9,711	---	11,819	---	12,411	---	10,941
Poultry ^{4/}	---	984	---	1,331	---	1,301	---	1,332
Milk	---	72,359	---	83,438	---	80,886	---	83,525
Wool	---	372	---	454	---	456	---	444
Eggs	---	Million units 36,761	---	Million units 48,738	---	Million units 47,002	---	Million units 48,120
Number:								
Cattle	---	1,000 head	---	1,000 head	---	1,000 head	---	1,000 head
Hogs	---	92,268	---	114,915	---	119,264	---	117,623
Sheep	---	81,031	---	113,642	---	112,620	---	88,073
Horses	---	151,013	---	179,723	---	180,445	---	174,829
	---	20,061	---	15,666	---	14,814	---	14,101

^{1/} Includes Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, USSR, and Yugoslavia; excludes Albania. ^{2/} USDA preliminary estimates. ^{3/} Carcass weight. ^{4/} Dressed weight.

Table 30.--Eastern Europe (excluding USSR): Area and production of principal crops, output of animal products, and number of livestock, average 1955-59, annual 1962-64 1/

Item	1955-59 average		1962		1963		1964 2/	
	Area : Production :		Area : Production :		Area : Production :		Area : Production :	
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
:hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares	metric tons	hectares
Field crops:								
Wheat	10,131	14,942	10,001	16,939	9,918	17,186	10,284	17,598
Rye	7,642	11,398	6,497	9,750	6,135	10,075	6,169	9,816
Barley	3,177	5,547	3,184	6,798	3,222	6,489	3,260	5,993
Oats	3,651	5,504	3,123	5,336	3,092	5,111	2,918	4,330
Corn	8,318	14,513	7,753	15,492	7,950	17,303	8,101	18,471
Potatoes	4,959	61,795	5,013	62,510	5,004	71,358	4,971	73,150
Sugar beets (factory)	1,207	25,434	1,349	28,009	1,332	34,119	1,409	36,861
Sunflower seed	750	764	921	1,074	980	1,154	959	1,183
Rape seed	306	337	403	583	365	409	402	406
Tobacco	252	236	255	230	304	314	333	379
Cotton	102	20	65	19	66	13	61	12
Livestock:								
Products:								
Red meat 3/	---	4,506	---	5,134	---	5,156	---	5,321
Poultry 4/	---	406	---	531	---	501	---	532
Milk	---	26,179	---	28,838	---	28,886	---	29,525
Wool	---	78	---	87	---	86	---	84
Eggs	---	Million units 14,961	---	Million units 18,638	---	Million units 18,202	---	Million units 19,120
Number:								
Cattle	---	29,368	---	32,815	---	32,264	---	32,223
Hogs	---	41,131	---	46,942	---	42,620	---	47,273
Sheep	---	38,913	---	42,223	---	40,745	---	40,929
Horses	---	7,461	---	6,266	---	5,814	---	5,601

1/ Includes Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, Yugoslavia; excludes Albania and USSR.
2/ USDA preliminary estimates. 3/ Carcass weight. 4/ Dressed weight.

Table 31.--Eastern Europe: Agriculture in the economy and major agricultural inputs, by country, 1963

Item	:	Unit	:	USSR	:	Poland	:	East	:	Czecho-	:	Hungary	:	Rumania	:	Bulgaria	:	Yugoslavia
Agriculture in the economy:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Share of gross production <u>1/</u>	:	Percent	:	2/22	:	21	:	9	:	13	:	19	:	30	:	27	:	26
Share of exports <u>3/</u>	:	Do.	:	17	:	19	:	4/	:	7	:	30	:	20	:	46	:	31
Share of imports <u>3/</u>	:	Do.	:	20	:	23	:	27	:	21	:	22	:	10	:	6	:	31
Rural population <u>5/</u>	:	Do.	:	48	:	52	:	28	:	18	:	36	:	67	:	60	:	50
Inputs in agriculture:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Land:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Agricultural land <u>6/</u>	:	Mil. ha.	:	522	:	20	:	6.4	:	7.2	:	7.0	:	14.7	:	5.7	:	14.8
Arable land <u>6/</u>	:	Do.	:	235	:	16	:	4.7	:	5.1	:	5.1	:	9.9	:	4.8	:	7.2
Sown area <u>7/</u>	:	Do.	:	218	:	15	:	4.7	:	5.1	:	5.0	:	9.7	:	3.9	:	7.2
Labor:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Agricultural labor force <u>8/</u>	:	Million	:	46	:	6.5	:	1.4	:	1.3	:	1.5	:	6.8	:	1.6	:	3.7
Share of total labor force <u>8/</u> ..	:	Percent	:	44	:	47	:	18	:	21	:	35	:	60	:	48	:	44
Sown area per worker <u>8/</u>	:	Hectares	:	4.7	:	2.3	:	3.4	:	3.9	:	3.1	:	1.4	:	2.4	:	1.9
Tractors:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Tractors, physical units <u>9/</u>	:	Thousand	:	1,451	:	96	:	111	:	96	:	55	:	75	:	31	:	43
Tractors, 15 hp. units <u>9/</u>	:	Do.	:	2,600	:	113	:	139	:	162	:	72	:	120	:	48	:	115
Average hp. per tractor <u>9/</u>	:	Hp.	:	27	:	18	:	20	:	25	:	20	:	24	:	24	:	40
Sown area per 15 hp. units <u>9/</u> ..	:	Hectares	:	84	:	132	:	36	:	32	:	70	:	81	:	81	:	62
Fertilizer:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Utilization of plant nutrients :	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
(Active substances):	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Arable land <u>10/</u>	:	Kg./ha.	:	15	:	57	:	216	:	11/112	:	66	:	25	:	31	:	58
Sown area <u>10/</u>	:	Kg./ha.	:	16	:	60	:	216	:	11/112	:	67	:	25	:	38	:	62

1/ As defined and calculated by the respective countries and not strictly comparable with GNP concept. The share of agriculture in national income as calculated by these countries is normally higher. USSR, Bulgaria 1962. 2/ National income as calculated by the Soviet Union (Narodnoe khozyaystvo SSSR v 1962 godu). 3/ Bulgaria, 1962. 4/ Not available. 5/ Beginning of year; Poland, and Czechoslovakia -- 1961. 6/ USSR and Bulgaria -- 1962; all other countries mid-year or end of year 1963. 7/ Bulgaria - 1962; all other countries mid-year 1963. 8/ Poland - 1960; Bulgaria - 1962. 9/ End of year. 10/ 1962 for Poland and Bulgaria. Calculated on the basis of reported consumption or deliveries of fertilizer to agriculture. 11/ 1962/63.

Table 32:--Eastern Europe: Socialization of agriculture, by country 1963 1/

Resource	(Percentage of total in agriculture)									
	USSR	Poland	East Germany	Czechoslovakia	Hungary	Rumania	Bulgaria	Yugoslavia		
Land: 2/										
Agricultural	99	14	93	89	87	88	89	13		
Arable	97	14	97	92	87	90	90	13		
Labor force 3/	80	8	98	83	85	94	96	7		
Tractors, physical units 4/	100	87	100	100	100	100	100	88		
Livestock: 5/										
Cattle	72	14	62	84	53	53	78	9		
of which cows	58	10	55	76	41	37	67	6		
Hogs	68	12	66	76	45	51	78	13		
Sheep	80	14	72	69	86	54	67	5		
Agricultural output: 6/										
Total	64	8	7/	78	55	7/	79	20		
Grains	98	11	95	87	72	91	90	20		
Potatoes	30	7	91	70	50	55	72	4		
Sugar beets	100	14	100	99	99	100	99	61		
Meat	56	12	7/	78	50	8/24	66	25		
Milk	55	11	7/	77	44	8/17	78	19		
Eggs	24	6	7/	51	10	8/2	52	2		

1/ "Socialization of agriculture" means the extent to which "socialist" types of farm units, including collective farms, state farms, etc., have replaced individually owned farms. Private plots and livestock of workers in the "socialized" sector are not included in that sector. 2/ Soviet Union and Bulgaria - 1962; other countries end of year or mid-year 1963. 3/ Share of the agricultural labor force deriving part of its income from work in socialized agriculture. Bulgaria - 1962. In the Soviet Union the remaining 20 percent includes the estimated number of persons working exclusively on private plots and a small percentage of collective farmers who do not work on the collective farms. 4/ End of year. 5/ Soviet Union, East Germany, Czechoslovakia, Rumania, and Yugoslavia - end of year 1963; Poland - June 1963; Hungary - March 1963; Bulgaria - January 1963. 6/ Calendar year production; USSR, East Germany, and Bulgaria - 1962. 7/ Not available. 8/ 1960.

Table 33.--:Conversion equivalents

Pounds per bushel

Wheat and potatoes	60
Rye and corn	56
Barley	48
Oats	32

One kilogram	equals	2.2046 pounds
One centner or metric quintal	"	220.46 pounds
One metric ton	"	10. centners or 2204.6 pounds
One pood	"	36.1 pounds or 16.38 kilograms
One hectare	"	2.471 acres
One acre	"	0.4 hectare
One kilometer	"	0.6 mile

Metric tons to bushels

<u>One metric ton</u>	<u>Bushels</u>
Wheat and potatoes	36.743
Rye and corn	39.368
Barley	45.929
Oats	68.894

Bushels to metric tons

<u>One bushel</u>	<u>Metric tons</u>
Wheat and potatoes .....	.02722
Rye and corn .....	.02540
Barley .....	.02177
Oats .....	.01452

To convert centners per hectare to bushels per acre,
multiply by:

Wheat and potatoes	1.487
Rye and corn	1.593
Barley	1.8587
Oats	2.788

To convert bushels per acre to centners (metric quintals),
per hectare multiply by:

Wheat and potatoes	0.6725
Rye and corn	0.6277
Barley	0.5380
Oats	0.3587

One metric tons of seed cotton = 1.562 bales of 480 pounds.

One metric tons of ginned cotton = 4.593 bales of 480 pounds.

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